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W.H.M. HRS.



The CHEMIST AND DRUGGIST

for RETAILER - WHOLESALER - MANUFACTURER

Established 1859

28 Essex Street, Strand, London, W.C.2

Registered as a Newspaper

No. 3103
VOL. CXXXI

JULY 29, 1939

Annual Subscription (with
Diary) 20/- Single Copies 9d.

Sure demand - BIG PROFITS
Moorlands merit increased display



MOORLAND

BRAND

INDIGESTION TABLETS

- Bigger **DEMAND**
- Bigger **ADVERTISING**
- Over **40% PROFIT**
- A worth while 

Sole Manufacturer: W. B. CARTWRIGHT LTD., RAWDON, LEEDS

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Within the next few days every chemist in the country will receive this new 'ASPRO' display set. Bright and attractive — seasonal and sales pulling — it will mean increased sales for you this summer. Put it in a prominent position in your window and reap the benefit of the powerful 'ASPRO' advertising campaign behind it. All the year round, £200,000 worth of publicity in the form of press, posters, broadsheets, etc. carries the 'ASPRO' message into every home in the country. The reaction is phenomenal — more and more people are becoming 'ASPRO' users every day. All that remains for you to get YOUR share of all this new business is to show 'ASPRO' display material CONTINUOUSLY in your window. WE KNOW IT! — YOU TRY IT!

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'ASPRO' consists of the purest Acetylsalicylic Acid that has ever been known to Medical Science, and its claims are based on its superiority.

Made in England by
ASPRO LIMITED
Slough, Bucks

Telephone: Slough 608

No proprietary right is claimed in the method of manufacture or the formula.



PUT IT IN YOUR WINDOW
AS SOON AS YOU GET IT

'MILK OF MAGNESIA'

WITH

Regd.

Medicinal Paraffin

THE introduction of an antacid lubricant containing 'Milk of Magnesia' is the logical outcome of clinical experience. An emulsion of 'Milk of Magnesia' with Medicinal Paraffin will be a welcome addition to the 'Milk of Magnesia' range and will be available under the trade name of —

'MIL-PAR'

BRAND

(Regd.)

ANTACID LUBRICANT



A pleasant and effective combination of 'Milk of Magnesia' with a specially selected grade of **Medicinal Paraffin**. Particularly indicated in the treatment of chronic constipation and hyperacidity of the stomach due to disorder of the alimentary tract.

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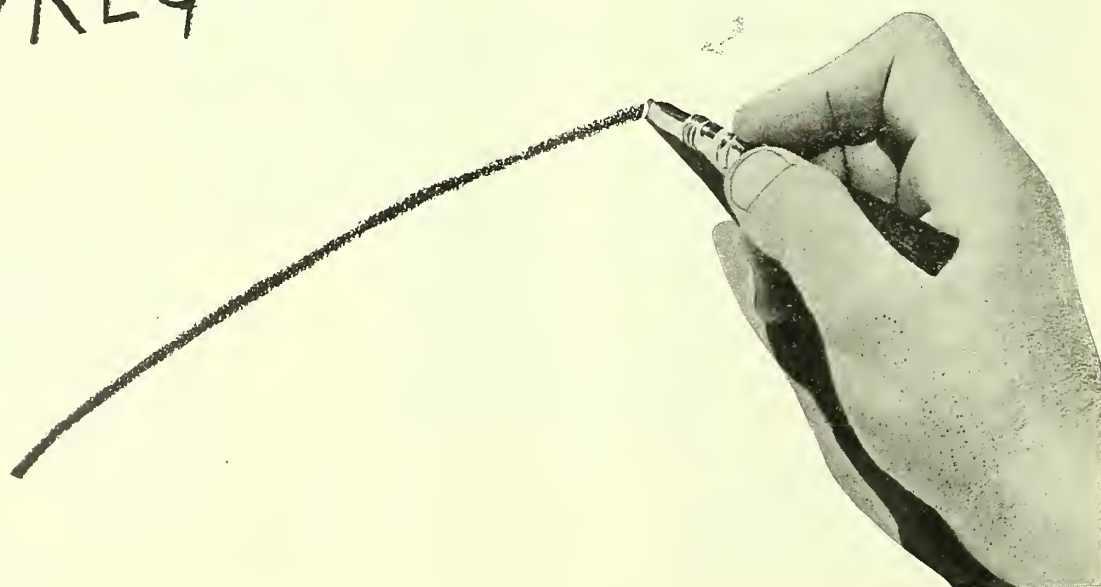
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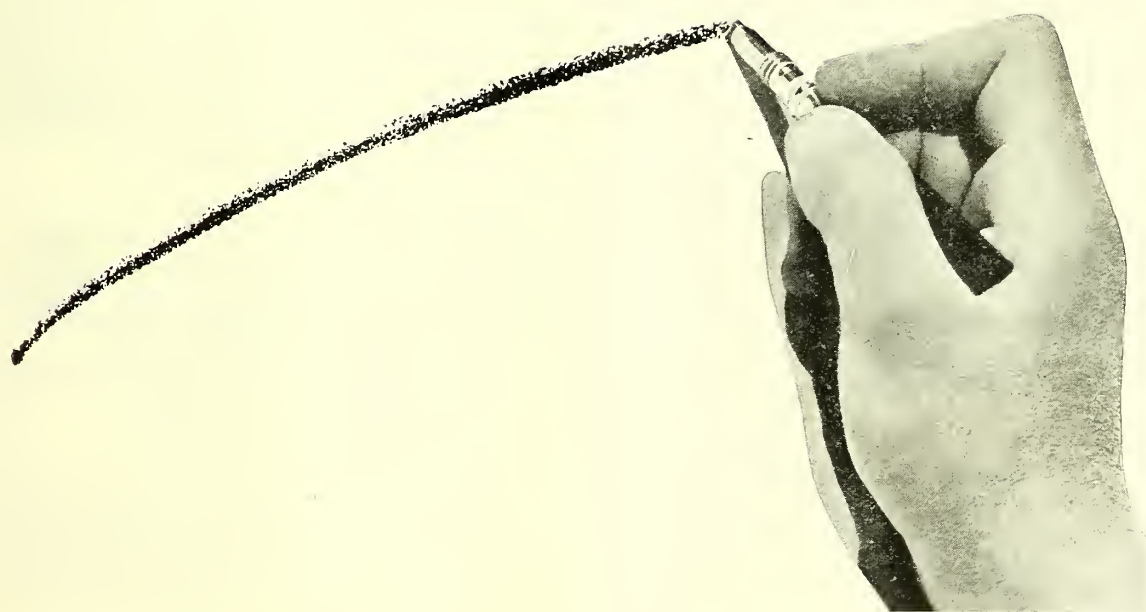
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BUY MORE
SUNDRIES
from MAW



This is Holiday Month



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and benefit from the increased
HOLIDAY SALES . .

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and
The Pharmacy and Poisons Act, 1933

Dr. J. Collis Browne's
CHLORDYNE

SALE RESTRICTED TO REGISTERED CHEMISTS

PURCHASER'S SIGNATURE NOT REQUIRED

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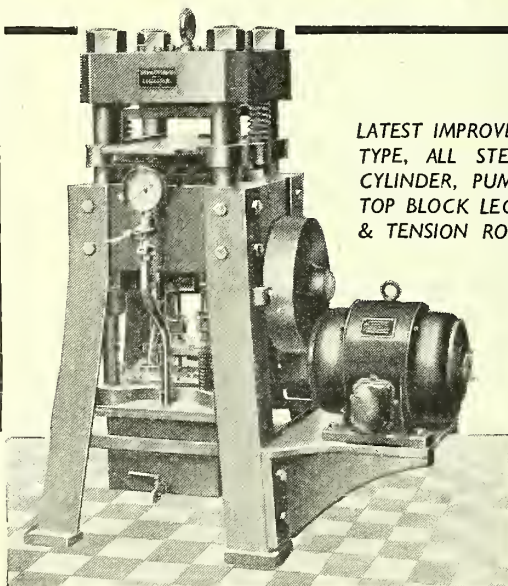


Union St.,
London, S.E.1

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LATEST IMPROVED
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CYLINDER, PUMP,
TOP BLOCK LEGS,
& TENSION RODS

Automatic adjustable release for pressure to suit gelatine being used. The mould is put in the press and the valve turned to working position. The automatic release comes into action when the required pressure is reached. No hard work as with hand-power presses, which allows the operator to use all his energy on the filling of the moulds, and this increases the output. Further particulars from the designers and makers.

All steel moulds for all sizes of capsules, either oval or round, made and supplied, and all the necessary appliances for the installation.

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'SURE-SHIELD'

*The name that
means sure Sales!*

SULPHUR TABLETS WITH CREAM OF TARTAR

A TABLET OF
SUPERIOR
FINISH AND
QUALITY

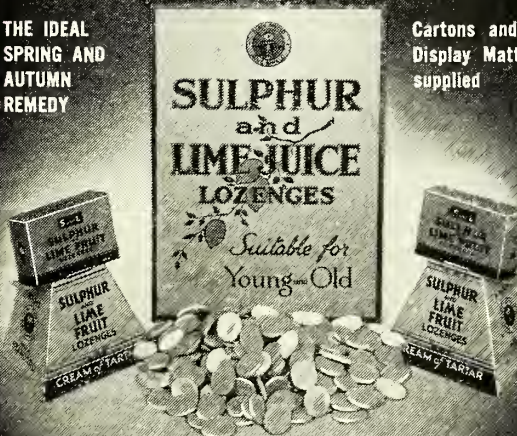
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SULPHUR & LIME FRUIT LOZENGES with Cream of Tartar

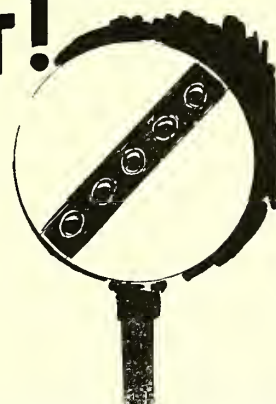
THE IDEAL
SPRING AND
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REMEDY

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Thos. GUEST & Co. Ltd.
CARRUTHERS ST., MANCHESTER 4
London Warehouse: 15 & 16 Jewry St., E.C.3

THERE'S NO LIMIT!



Thousands of retailers each year "speed along" to a healthy annual balance sheet. There is, however, an unfortunate minority who seem to be "in reverse" ... and, finally, a few "breakdowns" who will never get anywhere anyway! The sales "right-of-way" is a "No Limit" route for the go-ahead retailer, and it's a boast of ours that many retailers who have allied themselves with **McCLURE, YOUNG & CO., LTD.**, are of this category.

McCLURE, YOUNG & CO., LTD., are enabled to help retailers in so many ways. The huge list of packed lines covers such an immense range that maintaining and re-ordering stocks is simplified. In addition, huge buying resources enable us to supply the highest in quality at the keenest marketing prices, with obvious resultant benefits to the retailer.

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CF of course!

McCLURE, YOUNG & CO. LTD.

MANUFACTURING CHEMISTS

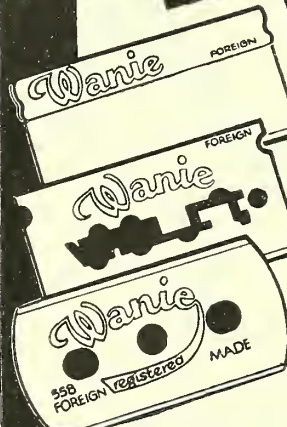
90 STANDARD ROAD
LONDON, N.W.10

PHONES: WILLESDEN 3733-4



WANIE BLADES

**KEEN EDGES
KEEN PRICES**



Your profit is 33½ to 45% every time you hand a customer a packet of Wanie Blades.

THREE HOLE TYPE
8/- gross. Retail 12 for 1/-

AUTO TYPE
9/- 100. Retail 10 for 1/8


SINGLE EDGE TYPE
9/- 100. Retail 10 for 1/8

DISPLAY SHOWCARDS
FREE TO ALL STOCKISTS


Dealers and Wholesalers
should write for FREE
SAMPLES and Trade Terms.

LONDON & PROVINCIAL FACTORS LIMITED
146, THEOBALDS ROAD, LONDON, W.C.1.

Eucryl Dentifrices



TOOTH POWDER



DENTURE POWDER

**BOUGHT ON
DISPLAY TERMS
YIELD -
PROFIT ON SELLING
PRICE**

39%

**PROFIT ON BUYING
PRICE**

63.6%

SHOWCARDS ON REQUEST
EUCRYL LTD.
Manufacturing Chemists
SOUTHAMPTON

CORKS, STOPPERS, ETC.



Send us your enquiries
and compare our prices.
We manufacture corks
of every description.

Est. 1844

C. OLLEY & SONS LTD.
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THE PERFECT BLADE FOR



No more painful
shaving! Make it a
clean, quick, comfort-
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with Wardonia—the
blade that gives
smoother shaves and
longer service. Every
1/- packet of 4 blades
brings you a large FREE
used-blade container.
Get yours now!

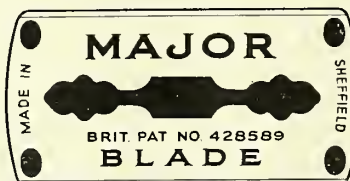
ALL THREE PEG RAZORS

THE WARDONIA NEW
BARREL-HOLE BLADE

THOMAS WARD & SONS LTD. WARDONIA WORKS, SHEFFIELD.1

SOMETHING NEW FOR CHEMISTS

Retail
1d.
each

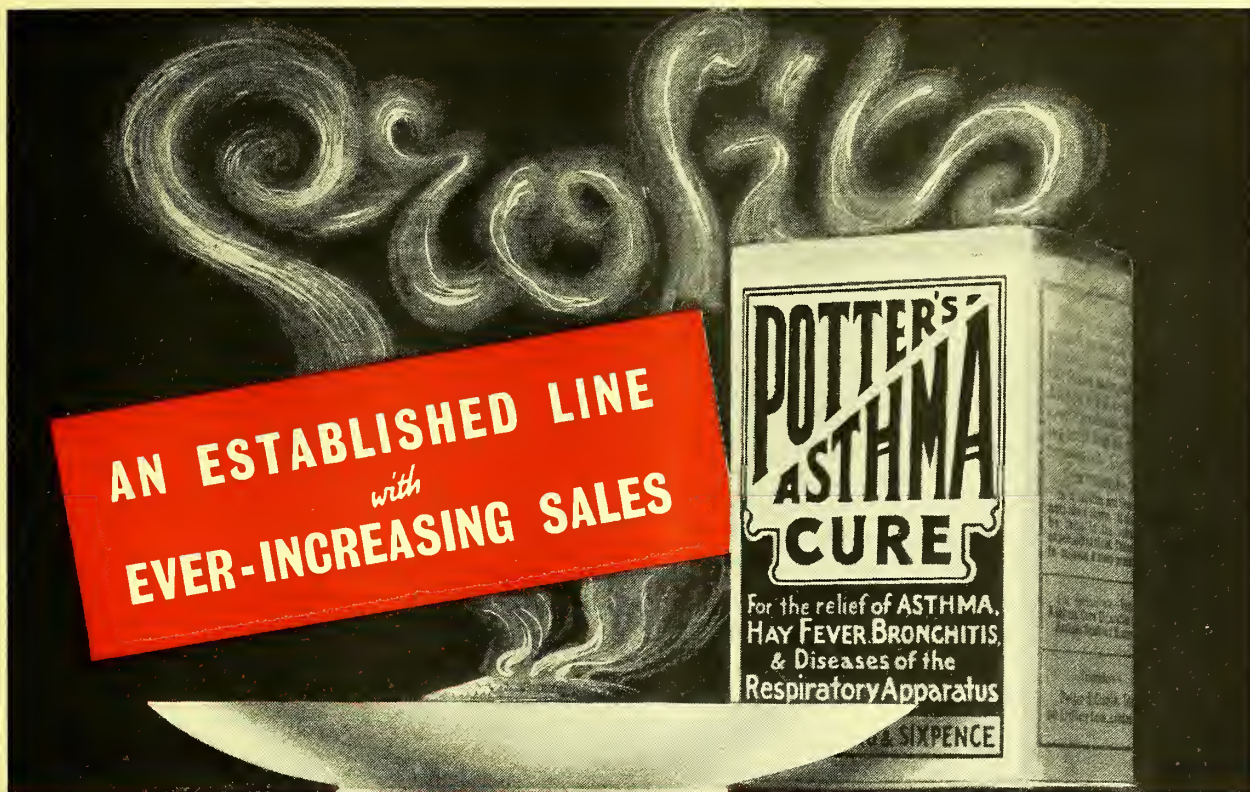


Retail
4
for
4d.

The Slotted "Major" Blade fits
Three-peg and Bar-Type Razors.

SAMPLE AND TERMS FROM—

DOMINION STEEL CORPN., LTD.
FLEET WORKS, QUEEN'S ROAD, SHEFFIELD, 2



AN ESTABLISHED LINE
with
EVER-INCREASING SALES

**POTTER'S
ASTHMA
CURE**

For the relief of ASTHMA,
HAY FEVER, BRONCHITIS,
& Diseases of the
Respiratory Apparatus

SIXPENCE

POTTER'S ASTHMA CURE

CONSISTENTLY ADVERTISED IN ALL THE GREAT NATIONAL
NEWSPAPERS THUS ENSURING A GREAT DEMAND!
RETAIL 1/6. WHOLESALE 14/- PER DOZ. Packed in Half-Dozs.

POTTER'S CATARRH PASTILLES

INTENSIVE NATIONAL ADVERTISING
AND UNVARYING HIGH QUALITY
ENSURE A CONSTANT DEMAND
P.A.T.A. 1/3. 11/- Doz. Packed in Half-Dozs.



**POTTER &
CLARKE LTD.**

and at—
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MANCHESTER 4

Phone, BLACKfriars 8734 Grams, "Horsehound Manjr."

60-64 ARTILLERY LANE, LONDON, E.1

Phone, BISHopsgate 4761 (6 lines) Grams, "Horsehound, Phone, London."



BEAUTIFUL

Glassware

We create and manufacture high quality
glassware for cosmetics and perfumery

WOOD BROS. GLASS CO. LTD.

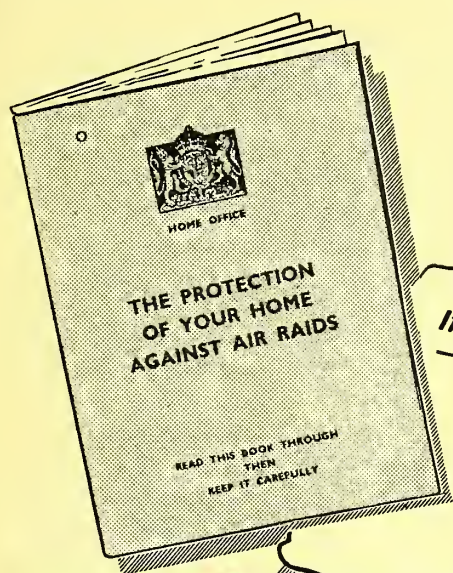
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BARNLEY

ENGLAND



REG. TRADE MARK



If there should ever be a war

**THINGS TO HAVE IN
YOUR REFUGE ROOM**

MATTRESSES
HOT WATER BOTTLES
WARM COVERINGS
RUBBER PROTECTION
RUBBER APRONS

*In any
emergency -*

Ready sales for North British hot water bottles are very definitely assured ; they have a name which means brisk, consistent business for you. You can benefit also from the steady demand that present conditions are creating for these other North British rubber products. Take advantage of the situation—order from your wholesaler NOW.

**NORTH
BRITISH**

RUBBER DRUGGISTS' SUNDRIES

Obtainable from your wholesaler

Fabric and Moulded Hot Water Bottles

Waterproof Hospital Sheetting
Rubber Air and Water Beds and Cushions

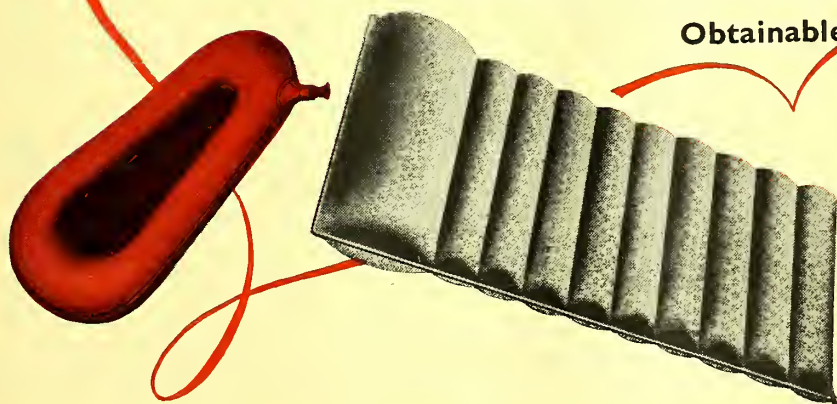
Fabric Air Beds

Circular and Rectangular
Air Cushions

Waterproof Nursing Aprons

Waterproof Cot Sheets

Surgical Drainage Sheetting, etc.





It pays to display Rendells
W. J. RENDELL LTD
 HARDWICK HOUSE,
 161/165 ROSEBERY AVENUE,
 LONDON, E.C.1

In every civilised country, in every home where parenthood is a matter for serious thought, to every doctor and nurse, Rendells are recognised as setting the highest standard in hygiene and efficacy.

This world-wide reputation and goodwill is the foundation upon which the chemist can develop his contraceptive trade.

Hot Water Bottles, and— *they sell like hot cakes!*

Dunlop Hot Water Bottles enjoy a popularity shared by no others. Their known dependability and their unique combination of supreme quality with low price place them beyond all competition.

For sure, swift sale—see especially Dunlop models retailing at 2/11 and 3/3.

But there are Dunlop Bottles for every class of trade.

DUNLOP COSIMAX. (Illustrated.) The modern luxury bottle that gives all-night warmth. Plush covered. Seamless interior made from Latex. Handsomely boxed. Fixed retail prices:

Standard Size -	-	-	10/6
Senior Size -	-	-	14/11
Foot Warmer -	-	-	10/6
Nursery Cosimax with animal motif -	-	-	10/6

DUNLOP HAND-MADE FABRIC INSERTION BOTTLE has a fine reputation for reliability and long wear. A bottle of exceptional value. Packed in neat "Cellophane" bag. In Red and White.

Size	Red	White
6 in. x 10 in.	4/11	4/6
8 in. x 10 in.	5/6	4/11
8 in. x 12 in.	6/6	5/6
10 in. x 12 in.	7/6	6/6

DUNLOP MOULDED FABRIC INSERTION BOTTLE. Made on the same principle as the world's finest motor tyres—this bottle is absolutely unrivalled in strength and safety. The handle is an important utility feature. Packed in attractive box. In red only. 4/6

And remember the irresistible **ANIMAL** Series for Children at 3/11, 4/6 and 5/9.

Will be advertised in "Punch" and the "Radio Times".

DUNLOP HOT WATER BOTTLES

Obtainable from Wholesale Houses only.

DUNLOP RUBBER CO. LTD. (General Rubber Goods Division), Combridge St., Manchester, 1. London: Rubber House, Brooke's Market, Holborn, E.C.1



DUNLOP ALL-RUBBER MOULDED BOTTLES.
(Illustrated)

High pressure moulded from the toughest rubber, these inexpensive bottles can be sold with the utmost confidence that they will give typical "DUNLOP" satisfaction. "Cellophane" wrapped. Fixed retail price - 2/11
With handle - - - 3/3



FENTONS
NUWEAVE
FLORAL DESIGN
FACE CLOTH

■ LATEST PRODUCTION ■ NEW SOFT FINISH
■ ATTRACTIVE FLORAL DESIGNS ■ CHOICE PASTEL COLOURS
■ SIZE 12" SQUARE ■ BOXED ONE DOZEN ■ RETAILS 6D ■ THE ONLY FACE SQUARE WITH PRINTED FLORAL PATTERNS.

Made by

THE FENTON MANUFACTURING CO. LTD. 145 FARRINGTON ROAD, LONDON. E.C.1.
MAKERS TO THE WHOLESALE & EXPORT TRADE. TELEPHONE: TERMINUS 5165

**NEW . . . an effective Show-card
to encourage the Sales of**

Show it and take advantage of constant advertising and the handsome profit now available.

16/- 28/- 2/- 3/6
per doz. retail

DEARBORN (1923) Ltd.

TELEPHONE: HOLBORN 9669

MERCOLIZED WAX



Excellent Show Material and Counter Booklets on request.

A BONUS of 10% on £3 assorted orders is offered for a display of MERCOLIZED WAX.

37 GRAY'S INN ROAD · LONDON · W.C.1

**Your Magnificent Support
increased our Business 26% in Six Months**

Our "Thank You" BONUS is

13 to the dozen!



... first time in Pepsodent history



PEPSODENT sales have increased 26.13% in 1939 compared with the first six months of 1938. Such a result, in the face of competitive price reductions, is as much a tribute to the tremendous power for good of the retail trade, as to the fact that the public are prepared to pay a full shilling for the extra value of IRIUM in Pepsodent, stressed in our advertisements.

"THANK YOU" BONUS—13 TO THE DOZEN

As a mark of appreciation for the trade's effort in the first six months—and for the first time in Pepsodent history—there is a thirteen to the dozen bonus on all orders for Pepsodent tooth paste or tooth powder, placed either direct or through the wholesaler, **effective until the end of August, 1939 — AND** the generous parcel discount terms still apply.

Pepsodent advertising reaches its maximum during the holiday period, which is the busiest time to sell tooth paste and tooth powder, and we sincerely hope that you will make the most of the extra profit available during this month.

162-A-B

PEPSODENT LTD., PARK ROYAL ROAD, LONDON, N.W.10

**You're on
safe ground**

in recommending

**Safelex
Preventives**

Your own reputation is involved every time you are called upon to recommend a line of contraceptives. Rightly or wrongly, you personally are held responsible for their absolute reliability—so you must be doubly sure that you are on safe ground with your suppliers.

Our unreserved recommendation of the SAFETEX PREVENTIVE—an all-British LATEX RUBBER product obtainable in silk or silver finish—is based on over 80 years' specialised experience in the supply of contraceptives. *May we send you full particulars?*

BURGE, WARREN & RIDGLEY, LTD.

91-92 Saffron Hill, London, E.C.1

TELEPHONE: HOLBORN 0050

TELEGRAMS: "DRUGSUND, SMITH, LONDON"

ESTABLISHED 1850

Holiday Customers



NEED

PRESTOBAND
the self adhesive bandage

All sorts of little holiday accidents can be dealt with on the spot with Prestoband. Suggest this to the holiday crowds passing your window. They can all afford the few pence Prestoband costs—and you'll find the profit tots up very pleasantly.

Available through wholesale houses only.
Particulars from the sole makers:

VERNON & CO., LTD., PRESTON

**FOR
REGULAR
PROFITS
STOCK**

SU-CAN

THE MODERN LOOPED SOLUBLE TOWEL

*

ROBINSON & SONS LTD., CHESTERFIELD & LONDON.

SOUTHALLS



'K'

SAN TOWELS

Parcelled inside
Display Cartons

FROM YOUR WHOLESALE HOUSE

COMPOSITION STOPPERS
BAKELITE MOULDINGS
COMPACTE COSMETIC & ROUGE BOXES



200 Varieties
Any Colour.

A suitable Composition Stopper will enhance the selling value of your package. Let us fit your Bottles and quote you.



W. J. SHARPLIN, Ltd. Telephone: Mountview 2952
Middle Lane Works, Hornsey, LONDON. N.8

Big Profits can be made

BY STOCKING AND SHOWING . . .

GLYMIEL JELLY

ALL THE YEAR ROUND

PREVENTS SUNBURN

AND SOOTHES THE SKIN
DURING SUMMER MONTHS



TUBES
3^d 6^d 1/-
DECORATIVE JARS
2/6

It prevents Sunburn - but NOT Sun Tan!

Sole Wholesale Agents:

Order Dept.
Telephone:
EUSTON 5010

Sanger's
LIMITED

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Cheeseman, Ltd.,
42 Hampstead Road,
London, N.W.1

258 Euston Road, London, N.W.1

Associated Companies and Branches: ● 7-13 Clerkenwell Road, E.C.1 ● Belfast ● Birmingham
Bournemouth ● Bristol ● Cardiff ● Liverpool ● Plymouth ● Newcastle

CONTINUED ADVERTISING
CREATES REGULAR DEMAND FOR

SAMONA

THE WONDERFUL MEDICAL RESTORATIVE

which brings immediate relief in all cases of Neurasthenia, Insomnia, Nerve Strain, Depression, Inability to Concentrate, General Weakness, Hardening of the Arteries, Tired and Listless Appearance, Mental and Physical Exhaustion.

P.A.T.A. Terms.
From all Wholesale Houses.

Samona Brand Tablets are supplied in two forms: No. 1 for Men (orange tablets);

No. 2 for Women (brown tablets). Retail price 3/- and 5/- (more than double quantity).



Our attractive showcard in colours. Have you got yours? Sent carriage paid with free pack for display. Apply to Samona Ltd., 16 Charterhouse Street, London, E.C.1.



CRO-PAX FOOT AIDS

Amazing Bonus Display Offer

NEARLY

100%

profit on cost

POPULAR 6d. and 3d. LINES

Turn foot troubles into easily made profits this season. Here is your greatest opportunity—a BUMPER BONUS OFFER. CRO-PAX for quick and safe relief to foot sufferers, quicker turnover and quicker profits.

THE LARGEST SELLING RANGE OF POPULAR PRICE FOOT AIDS IN THE WORLD

FREE BONUS

Write today for particulars of CRO-PAX Special Offer including Free Display Stand and Free Bonus.

CRO-PAX

FOOT AIDS
5 Beestmarket Hill, Nottingham
Distributed by SPLENDOR LIMITED

£1 Starts a Profitable Foot Aid Department

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To sweeten the breath and render it pleasant.
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To impart a brilliant lustre to the enamel.
8. CLEANSING...Sapo Duras (Neutral).
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for RETAILER - WHOLESALE - MANUFACTURER

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News of the Week

Business Changes

MR. J. W. TODD, Ph.C., has sold his businesses at Camberley and Bagshot to H. W. Herbert, Ltd., chemists. Mr. Todd's address will be "Peveril," Deepdene Avenue, Dorking.

THE partnership between Mr. N. H. Burns, M.P.S., and Mr. A. G. Reed, M.P.S., carrying on business as chemists and druggists at 99 Hunslet Hall Road, Leeds, under the style of Burns & Reed, has been dissolved. The business will be carried on under the same title by Mr. A. G. Reed.

K.I.D. Exemption Application

The Board of Trade give notice that they have received an application under Section 10 (5) of the Finance Act, 1926, for an Order exempting SECONDARY BUTYL ALCOHOL from liability to duty under Part I of the Safeguarding of Industries Act (Key Industry Duty). Any communication should be addressed to the Principal Assistant Secretary, Industries and Manufactures Department, Board of Trade, Great George Street, London, S.W.1, before August 21, 1939.

Midwives and Analgesics

At the annual meeting of the British Medical Association on July 22, Dr. J. W. Bone moved a Council recommendation that certified midwives should be permitted to administer nitrous oxide and air in labour under specific safeguards, one of which was that the patient has within one month before her confinement been examined by a registered medical practitioner who has handed to the midwife a certificate in writing that the patient is in a fit condition for gas-and-air administration. After a discussion, during which two amendments were rejected, the Council's recommendation was defeated "by a large majority." In a subsequent interview Lady Rhys Williams, vice-chairman of the National Birthday Trust Fund, pointed out that the Central Midwives Board (a statutory body) sanctions the use by midwives of approved apparatus for administering nitrous oxide and air during labour, and that the decision of the British Medical Association on a vote does not affect the position.

A.R.P.—Camouflage of Buildings

The Home Office, Air Raid Precautions Department, has published A.R.P. Handbook No. 11, "Camouflage of Large Installations" (Stationery Office, price 3d.). This pamphlet describes in general terms the measures which may be taken by way of camouflage to render factories and other buildings less distinguishable from the air. It is not intended to suggest that camouflage is applicable to all types of buildings, or that it should be generally undertaken: it will not usually be justified except in the case of premises likely to be a special object of attack and so conspicuous as to demand concealment. Any firms or undertakings who, for reasons of national policy, are likely to be required to take measures to camouflage their

premises will receive more detailed guidance from the appropriate Government Department. The pamphlet contains a number of illustrations and specimen prints of camouflage paints.

The Home Office, Air Raid Precautions Department, has issued Handbook No. 12, "A.R.P. for Animals" (Stationery Office, price 3d.). The pamphlet deals with the evacuation of animals from urban areas, general protection, which is similar to that recommended for human beings, nature of casualties and first-aid treatment, destruction of incurably injured animals and disposal of carcasses and description of the captive bolt pistol.

Photographic Exhibition

An exhibition arranged by the Royal Photographic Society in collaboration with the Science Museum to illustrate the history of photography from the time of its inception in 1839 to the present day was opened at the Science Museum, South Kensington, London, S.W.7, on July 22. The exhibition, which is open from 10 a.m. to 6 p.m. on weekdays (including August Bank Holiday) and from 2.30 p.m. to 6 p.m. on Sundays, will continue until August 27. The sections into which the exhibition is divided comprise one of early photographs and apparatus used by the pioneers in photography—the exhibits having been selected in relation to those inventors whose work exerted the greatest influence on the early course of photographic history; another of a selection of photographs taken from the Society's collection, and a third of the scientific and industrial applications of photography. In striking contrast to some of the earlier apparatus used, several cases displayed a wide range of modern cameras and accessories lent by well-known manufacturers. In the section dealing with the applications of photography are exhibits illustrating photomicrography; photo-engraving; colour prints and transparencies; documentary recording; photography in scientific research and for x-ray investigations for medical and metallurgical purposes and aerial photography. The operations involved in the production and function of the photographic lens, camera, film and printing paper are illustrated in wall panels and illuminated cases, and the actual component stages are shown in each case.

Miscellaneous

DANGEROUS DRUGS ACT CASE.—At Kidwelly Police Court, recently, Dr. A. J. Beckett was fined £10 on five charges of failing to enter in a register purchases of morphine.

IN THE COURTS. — At Ramsey, Isle of Man, recently, Lucille Harding was fined 5s. for unlawful use of the word "pharmacy" on the wrappers of razor-blades.—At South Shields,

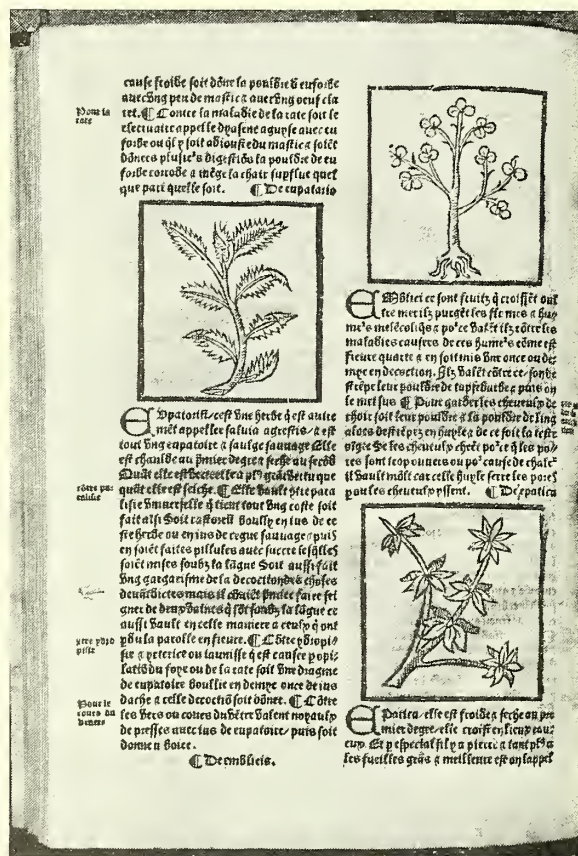
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recently, Abdul Ali was fined £2 for the unlawful possession of opium.

A.R.P. PAMPHLET ON FOOD STORAGE.—The British Medical Association has issued a leaflet (price 2d.) giving a list of foods stated to suffice for a married couple with three children for a week, and to be based on scientific values.

EXHIBITION OF BOTANICAL BOOKS.—A well-selected exhibition of herbals and other books of botanical interest is on view for a limited period in the premises of J. & E. Bumpus, Ltd., 477 Oxford Street, London, W.1. One of the rarities is a copy of "Le Grand Herbar en François: contenant les qualitez, vertus, et propriétés des herbes, arbres, gommés,



By courtesy of J. & E. Bumpus, Ltd.]

PAGE FROM "LE GRAND HERBIER"

semences, huyles et pierres precieuses . . ." dating from about 1520, and previously published with the title "Arbelayre contenant la qualitey et virtus . . ." A special interest attaches to this book by reason of its translation into English in 1526 as "The Grete Herball," the first of its kind in our language. The late Dr. J. C. McWalter, in the *C. & D.* of September 27, 1919, regarded the French herbal as a translation from a manuscript known as "Circa instans."

ETHICAL PHARMACEUTICALS ASSOCIATION.—The fourth annual meeting of the Ethical Pharmaceuticals Association was held in London on July 14. The chairman (Mr. A. W. Edwards) presided, and in the course of his report said three new members joined the Association during the year. Several questions had arisen out of the operation of the Pharmacy and Poisons Act, 1933, and a suggestion had been made that articles covered by Schedule 4 of the Poisons Rules should, in future, be marketed conspicuously with the characters "S.4." Though it was felt by many that the extra marking was rather unnecessary, yet it was a point of practical assistance to the busy pharmacist, and they circularised their members accordingly. A great deal of consideration was given during the year to the provisions of the Trade Marks Act, Section 6, 1938. "This, as you know, has to do with the marking of goods whose make-up

or packing has been altered after they have left the hands of the actual owners of the trade mark." The chairman took the opportunity of paying renewed tribute to his predecessor for his presentation of the Ethical Pharmaceuticals Association's case on medicine-stamp duties before a Select Committee in 1936. He continued: "The Association is naturally only concerned with the subject so far as ethical preparations are concerned, but on general grounds it is surely desirable that steps should be taken to end the present uncertainty and to regularise and legalise a matter which, at present, is causing natural anxiety to interested parties. A question which has occupied a good deal of the time of the Executive Committee has been that of dispensing ethical preparations under the National Insurance scheme without surcharge. The Association held a social function in the early part of this year, the intention is to arrange another and perhaps subsequently an annual dinner or luncheon." The report was adopted with an expression of appreciation of the good work rendered by Mr. Edwards as chairman of the Association for the past year. The following elections took place:—*Chairman*, Mr. A. W. Edwards; *Vice-Chairman*, Mr. H. R. Napp; *Treasurer*, Mr. J. G. Gordon; *Secretary*, Mr. F. G. W. Paige; *Executive Committee*, Mr. W. Beckley (Chas. Zimmermann & Co., Ltd.); Mr. Henry W. France (Roche Products, Ltd.); Mr. J. G. A. Harris (British Felsol Co., Ltd.); Mr. E. H. Spicer (Endocrines-Spicer, Ltd.); Mr. Hugo Wolff (Glaxo Laboratories, Ltd.); Mr. A. C. Henry (Bayer Products, Ltd.) (ex-officio); *Auditors*, Mr. F. C. Anscombe (British Organotherapy Co., Ltd.); Mr. T. Armstrong (Eli Lilly & Co., Ltd.).

Irish Notes

Examination Results

The following are the results of the July Licence examination held by the Pharmaceutical Society of Ireland, for which forty-four candidates presented themselves: *Passed with honours* (arranged alphabetically): Anne Daly, Francis Farnan, Kevin Matthews, Michael Sheehan. *Passed* (arranged alphabetically): D. C. Bree, J. O'Rourke Byrne, Maurice L. Cashman, F. E. Holly, Mary M. Lee, Mary B. Lyons, Michael McMahon, David Murphy, J. P. Newell, Michael A. Nolan, Daniel O'Connell, Timothy Brendan O'Sullivan, George Robinson, Johanna F. Walsh.

Miscellaneous

MR. HENRY S. HOGG, youngest son of Mr. Samuel Hogg, M.P.S.I., Belfast, has graduated M.B., B.Ch., B.A.O., at the Queen's University, Belfast.

PILGRIMAGE TO LOURDES.—Under the patronage of His Grace the Archbishop of Dublin a pilgrimage of Irish pharmacists and their friends will leave Dublin on July 31 for Lourdes. The party will reach London the same evening and continue the journey via Victoria and Newhaven. The return journey will be made on August 16 the party reaching London on August 17, and arriving home on the same date. Pharmacist members of the pilgrimage include Messrs. James J. Kerr (registrar of the Pharmaceutical Society of Ireland); P. P. Buckley, Dublin; J. F. O'Hara, Trim; T. B. O'Sullivan, Dublin; P. Hanley, Fermoy; P. Fullam, Naas; T. Burke, Cavan; J. A. O'Rourke, Dun Laoghaire; Miss Sheila Forde, Castlereagh; Miss E. Burke, Drogheda, and Mr. John J. Gaynor, Law Adviser to the Pharmaceutical Society. During their stay in Lourdes many of the pharmacists will serve as brancardiers or stretcher-bearers.

Scottish Notes

Miscellaneous

DUNCAN MEDAL AWARD.—Mr. George Hay has been awarded the Duncan medal as the best student of the year in the pharmacy classes at Heriot-Watt College, Edinburgh. Mr. Hay was apprenticed to Mr. W. Alexander, M.P.S., 57 Low Street, Banff.

MR. A. C. AITKEN, M.P.S., 291 Clifton Road, Aberdeen, has been appointed to represent Ayrton, Saunders & Co., Ltd., manufacturing chemists, Liverpool, in the North of Scotland over the territory formerly covered by Mr. J. A. Ross, who has retired.

Sporting Events

UCAL TROPHY MATCH AT HUDDERSFIELD.—At a recent meeting at Meltham golf course of the Huddersfield Chemists' Golfing Society, a trophy presented by Ucal, Ltd., was played for. The winner was Mr. J. O. Hutton (handicap 16), who returned 69 net. Other leading scores were:—

F. B. Hardcastle	78 - 8 = 70
A. Davies	83 - 13 = 70
W. T. Haigh	87 - 16 = 71
L. H. Fawthrop	96 - 24 = 72
E. Thomas	91 - 18 = 73

BIRKENHEAD GOLFING SECTION.—Eighteen players took part in a golf competition held under the auspices of the Birkenhead and Wirral Association of Pharmacists at Wallasey on July 6. Mr. F. Mellor (Evans Sons Lescher & Webb, Ltd.) won the prize; the runners-up were Messrs. W. E. George and A. Williamson. At a meeting of the golfing section held on July 10 it was decided to run a "knock-out" competition to commence with the next fixture at Bidston. On this occasion a prize was awarded to the competitor returning the best net score, whilst the best eight qualified for the remainder of the "knock-out" competition, the finalist being awarded a further prize.

GOLF.—The directors and departmental managers of Scott & Bowne, Ltd., played eighteen holes over the course of the Guildford Golf Club, on July 11, in the first house golf competition organised by the company. Mr. W. H. Thomas, sales director, won the house cup and replica with a net score of 75 against a bogey of 73 on a course which was entirely new to

the competitors. Mr. W. H. Tatham, production director, was second with 76 and Mr. T. Rooney third with 77.

LONDON CHEMISTS' GOLFING SOCIETY.—At a meeting of the Society, held at West Surrey Golf Club, Godalming, on July 9, competitions took place for the Sanger cup (medal) and Professor Flint trophy (bogey). The results were:—*Sanger cup*, A. E. Willmer, 87-10=77; A. I. Ashton, 88-10=78; J. Redfern, 84-6=78; W. H. Usher, 90-11=79; A. C. S. Hunter, 96-17=79; E. A. Geddes, 90-11=79. *Professor Flint trophy*, J. H. Redfern (6), 2 down; W. H. Usher (11), 3 down; A. C. S. Hunter (17), 4 down; T. W. D. Turner (13), 5 down; A. J. Whitmore (scratch), 5 down. The cup presented by the Society for a ladies' competition was won by Mrs. R. W. Poole (92-12=81). At a meeting held at the President's Club, Old Ford Manor, on July 6, competitions took place for the Arthur H. Cox prize (medal); the Jubilee vase (bogey) and the President's prize. The results were:—*Arthur H. Cox prize*, P. C. Geddes, 91-16=75; A. W. Daniel, 84-7=77; W. H. Usher, 90-11=79; W. Gray, 89-9=80; T. F. Gibson, 90-10=80; F. E. Lever, 90-10=80. *Jubilee vase*, A. J. Whitmore (3), 1 down (won on last 9 holes); F. E. Lever (10) 1 down; A. W. Daniel (7) 2 down; R. Poole (7), 3 down; A. E. Willmer (10), 3 down. Entry fees for this competition amounted to £4, which sum has been forwarded to the Benevolent Fund of the Pharmaceutical Society. *President's prize*, leading scores, G. P. Crang, 84-10=74; P. C. Geddes, 91-16=75; A. E. Willmer, 85-10=75; A. W. Daniel, 84-7=77; W. H. Usher, 90-11=79; R. Poole, 86-7=79.

Topical Reflections

By Xrayser

A Sound Address

In his address as chairman of the British Pharmaceutical Conference (C. & D., July 22, p. 84) Mr. J. Rutherford Hill, to whose sterling qualities I paid a tribute in this section about a year ago, formulates clearly the criteria that in his considered opinion should be applied to the sale of medicaments in this country. Your editorial comment on p. 91 leaves little to be said: you have pointed out the "practical lines of common sense" on which Mr. Hill has built up his case—the essential attitude in any such matter. May I add a preliminary caution as to a latent danger? The word "control," which occurs more than once towards the close of the address, is susceptible of more than one meaning. I think that those responsible for any future negotiations affecting pharmacy law will need to be on their guard lest they afterwards find that by control they mean something quite different from the significance attached to the word by the people with whom they have been negotiating. Many, and perhaps most, of us are being led, by a sequence of events, to the belief that control, in the sense of rules and regulations prescribing the methods by which wholesale and retail business has been conducted, has gone far enough: it is the control of the hitherto uncontrolled that we need. The news from France (p. 81) regarding unqualified sellers of herbs is of interest as a parallel phase of the same problem; and it may be worth while for one of our representative bodies to assemble and collate the laws governing the sale of medicaments in other countries.

The Science Papers

It goes without saying that the science papers presented at the Conference are not all of equal importance: nevertheless, I trust that the generality of your readers make a point of going through them. They must find, as I have done, many hints of practical value—sometimes direct, sometimes indirect—that are worth the search. The perennially troublesome problem of fading colours, for instance, is carried a stage nearer solution in the first of the monographs printed on pp. 96-104. The discoloration of solutions of adrenaline hydrochloride, we learn (p. 100), is not an indication of relative potency. The stabilisation of hydrogen peroxide, a reform somewhat overdue, is foreshadowed on p. 103. At least three familiar ointments (and by inference several others) came under review, with

details helpful towards a more complete understanding. It is clear that dispensers are in an appreciable measure dependent on the ultimate composition, as disclosed by analysis, of the materials they handle; and when we are praising manipulative skill it is well not to overlook this fact.

A Layman's Medical Advice

While so eminent a man as John Wesley may have been, in the words of your article on p. 92, "well abreast of the medical literature of the times," he did not escape the common lot of laymen who venture on the discussion of diseases and remedies. In 1776 William Hawes, M.D., who owned an apothecary's shop in the Strand, London, published a book with the following title: "An Examination of the Rev. Mr. John Wesley's Primitive Physic: Shewing That a great Number of the Prescriptions therein contained, are founded on Ignorance of the Medical Art, and of the Power and Operation of Medicines; and that it is a Publication calculated to do essential Injury to the Health of those Persons who may place Confidence in it. Interspersed with Medical Remarks and Practical Observations." Hawes's comments were sometimes curt and severe; thus, under the heading "A dry, or convulsive Asthma," he quotes six of Wesley's prescriptions and adds, "A very dangerous disease, rendered more so by several trifling and insignificant prescriptions." Sometimes he was jocular; an instance may be found under "A Cancer in the Breast," of which disease Wesley wrote, "Use the cold bath daily. . . . This cured Mrs. Bates of Leicestershire, of a cancer in her breast, a consumption, a sciatica, and rheumatism, which she had near twenty years. . . ." (This was quoted more fully in the C. & D., 1921, I, 903.) Hawes remarks: "We should be glad to be informed, in what part of Leicestershire Mrs. Bates lives; it is a county of some extent, and if the lady *really exists* any where, it would have been proper to have given a more particular direction. We are induced to say this, because the relation is too improbable to be credited by any persons of common understanding." Hawes was a philanthropist who was greatly esteemed, and with the support of a few others founded the Royal Humane Society. This book of his reminds me of the "roasting" that another famous divine, Bishop Berkeley, received from medical authors over his advocacy of tar water in the middle years of the same century.

Legal Reports

Injunctions Granted.—In the Chancery Division of the High Court, London, on July 14, Mr. Justice Morton heard a motion in an action by Macleans, Ltd., Brentford, against Craven Park Cut Price Stores, Harlesden, N.W. Counsel for the plaintiffs said that the motion was for an injunction against the defendant, who appeared in person. The plaintiffs had two letters patent for methods of making tooth-paste tubes, and this was a case of infringement of the patent by selling outside the licence. Counsel understood that the defendant was prepared to consent to treat the motion as the trial of the action and to consent to judgment on the terms asked for in the writ. Replying to the judge, the defendant said that he was willing to submit to a perpetual injunction in the terms of paragraph 1 of the writ and to an inquiry as to damages. An injunction was granted accordingly.—A motion by Tokalon, Ltd., London, N.W.10, for an injunction restraining Ernest Morris (trading as Wilfred's Cut Price Stores), West Hartlepool, from selling plaintiffs' powder at a price less than that shown in their current price list came before Mr. Justice Morton in the Chancery Division on July 25. It was stated by counsel for plaintiffs that defendant was willing to treat the motion as the trial of the action and submit to a perpetual injunction in the terms of the notice of motion. There would be an inquiry as to damages and the costs would be taxed and paid to the plaintiffs. Mr. Justice Morton: Very well.

Alleged Disclosure of Trade Secrets.—Mr. Justice Morton, in the Chancery Division on July 26, had before him a motion by Burgoyne, Burbidges & Co., Ltd., manufacturing chemists, East Ham, London, E., for an interlocutory injunction restraining Mr. William Crawford, a former departmental manager of the plaintiffs, from disclosing trade secrets of the plaintiffs. Appearing for Burgoyne, Burbidges & Co., Ltd., Mr. Fletcher Moulton said they were a very old-established firm. Defendant went into the service of their predecessors, a firm with the same name, fifty years ago. In 1916 plaintiffs became a company and manufactured products common to the trade. They also had a large export trade, more particularly in the Orient. Mr. Crawford entered the business in 1890, when twenty-two years of age. He became a director when the firm changed to a company in 1916 and was also a departmental manager. Under his agreement he undertook not to disclose any of plaintiffs' secret processes. During the past year differences arose as to the manner of conducting the business and Mr. Crawford left plaintiffs' service. He then joined C. R. Harker, Stagg & Morgan, Ltd., and shortly afterwards plaintiffs received information which led them to believe that defendant was breaking the undertaking he had given with regard to the non-disclosure of plaintiffs' secret processes. Counsel said it was contended by plaintiffs that Mr. Crawford had disclosed the process for the manufacture of iodised sarsaparilla. Mr. E. Milner Holland, for Mr. Crawford, denied this allegation and said the formula was generally known to the trade. Mr. Justice Morton said he had the most direct evidence from the affidavit of defendant that he had not any confidential information as to this formula; that he had not communicated any confidential information to anyone and did not intend to do so. Mr. Milner Holland said iodised sarsaparilla was iodised sarsaparilla all the world over. This was an attempt by plaintiffs to prevent Mr. Crawford from using the knowledge he was entitled to use. Mr. Fletcher Moulton pointed out that the iodised sarsaparilla manufactured by plaintiffs contained a very small amount of gold. Giving judgment, Mr. Justice Morton said he had arrived at the conclusion that he should not grant an interlocutory injunction and he should not insist upon an undertaking by defendant. That being so the less said about the matter the better, as it would have to be tried later. "I will only say this," added His Lordship, "that having regard to the matters which have come to the attention of the plaintiffs, and in particular a letter which is exhibited, it was not unnatural that they should suspect that defendant had disclosed, or was proposing to disclose, confidential information. Mr. Crawford, in his evidence, gave an explanation of the letter, and it cannot be determined, on affidavit evidence, whether that explanation is a correct one or not. Defendant said he never had communicated any information as to plaintiffs' process and did not intend to do so. I shall make no order on the motion except that costs be costs in the action."

Company News

P.C. means Private Company and R.O. Registered Office

LONDON CHEMICALS, LTD. (P.C.).—Capital £5,000. Objects: To carry on the business of chemists, druggists, etc. The first directors are to be appointed. Solicitors: Stephenson, Harwood & Tatham, 16 Old Broad Street, E.C.

AMBLER & CO. (BARNSELY), LTD. (P.C.).—Capital £2,000. Objects: To acquire the business of a dealer in drugs and general merchants carried on by H. Ambler at Rockingham Works, Windermere Road, Barnsley.

BROTEX PRODUCTS, LTD. (P.C.).—Capital £2,000. Objects: To carry on the business of druggists, chemists, manufacturers and merchants in chemicals and drugs, perfumes, etc. Michael C. Brot, 43 Northwold Road, N.16, director.

MEDICAIDS, LTD. (P.C.).—Capital £1,000. Objects: To acquire and turn to account any patents, licences, concessions, etc. The first directors are to be appointed. Solicitors: Addleshaw, Sons & Latham, 15 Norfolk Street, Manchester.

S. T. SHAW, LTD. (P.C.).—Capital £2,500. Objects: To carry on business as wholesale and retail chemists and druggists, etc. Mrs. Eleanor Shaw, 18 Station Lane, Golcar, director. R.O.: 73 James Street, Golcar, near Huddersfield.

LONDON PHARMACEUTICAL LABORATORIES, LTD. (P.C.).—Capital £1,000. Objects: To carry on business as manufacturers of and dealers in chemicals, drugs, medicines, etc. The first directors are to be appointed. Solicitors: Buckeridge & Bruine, 3-4 Clements Inn, W.C.2.

HUBERT B. FIGG, LTD. (P.C.).—Capital £3,000. Objects: To acquire the business of a chemist and druggist carried on by Hubert B. Figg at Berkhamsted and elsewhere. Hubert B. Figg, "Silverdale," North Road, Berkhamsted, director. R.O.: 145 High Street, Berkhamsted.

SHELDONS (CHEMISTS), LTD. (P.C.).—Capital £500. Objects: To carry on the business of wholesale or retail pharmaceutical and general chemists, herbalists, etc. Wm. Sheldon (director of Hooley & Sheldon (Chemists), Ltd.) and Lionel M. Sheldon, 13 Burlington Road, Birkdale, Southport, directors.

VERMINEX, LTD. (P.C.).—Capital £1,000. Objects: To carry on the business of wholesale and retail chemists, druggists and dealers in all kinds of chemical products, vermicides, insecticides, disinfectants, etc. The first directors are to be appointed. R.O.: Equitable House, 47-51 King William Street, E.C.4.

MARK LAMBERT, LTD. (P.C.).—Capital £500. Objects: To carry on and develop the secret formula to be communicated to the company by Mark T. Lambert, and to carry on the business of manufacturers and sellers of medicines and toilet and other preparations, etc. Solicitor: R. H. Studholme, 15 Moorgate, E.C.2.

SULFURO FERTILIZERS, LTD. (P.C.).—Capital £20,000. Objects: To carry on the business of manufacturers of and dealers in fertilisers, chemicals, animal foods, stearin, saccharine, fats and food products of every description, manufacturing chemists and druggists, etc. Charles H. Gillbard, The Ranch, Launceston, director.

BEECHAM EXPORT CORPORATION, LTD. (P.C.).—Capital £15,000. Objects: To carry on the business of merchants and retailers in all kinds of medicines and medical preparations and drugs, etc. The directors (to number not less than two nor more than seven) are: Joseph S. Holmes, M.P., 15 Grosvenor Square, W.1. (director of Beechams Pills, Ltd.), Bernard L. Hobrow, The Close, Esher, Surrey (director of Beechams Pills, Ltd.), Henry G. Lazell, Wood Knoll, Lindfield, Sussex (secretary of Beechams Pills, Ltd.), Geo. A. Dunbar, 24A Mornington Crescent, W. Kensington (director of J. C. Eno, Ltd.), Douglas W. Howarth, 11 Heston Park Road, Hounslow, Middlesex (director of J. C. Eno, Ltd.). R.O.: 68 Pall Mall, S.W.1.

WARD, BLENKINSOP & CO., LTD.—We are informed that Mr. G. N. Vanstittart (director of General Motors operations in Great Britain and in Europe) has been elected a director of the company.

Pharmaceutical Society of Great Britain

London Examination Results

THE following are the results of the examinations held in London during the present month:—

Examination	Entered	Absent	Failed	Referred (one subject)	Passed
Preliminary Scientific:—					
(a) Whole examination ...	272	3	111	74	84
(b) Referred subject ...	75	1	—	30	44
Chemist and Druggist Qualifying:—					
(a) Whole examination ...	378	3	140	97	138
(b) Referred subject ...	30	1	—	9	20

The Board prescribed that before re-entry forty-five candidates should undergo a further course of study as follows:—*Preliminary Scientific examination.*—In all subjects, 13; in biology, 1; in botany section of biology, 20; in physics, 2; in chemistry, 4; in chemistry and botany, 2; in chemistry and physics, 1. *Chemist and Druggist Qualifying examination.*—In all subjects, 2.

SUMMARY OF REJECTED CANDIDATES

Subject	Entered	Absent	Referred	Failed
Biology (botany + zoology) ...	195	1	42	61
(botany section only)* ...	132	2	40	41
Chemistry ...	282	4	9	85
Physics ...	281	3	13	81
Pharmacognosy ...	382	3	10	60
Pharmaceutics ...	392	3	40	112
Physiology ...	380	3	24	108
Pharmaceutical chemistry ...	383	4	19	77
Forensic pharmacy ...	380	3	13	78

* These candidates are exempt under Regulation 9 (c) from examination in the Zoology section of Biology.

CHEMIST AND DRUGGIST QUALIFYING EXAMINATION

The following candidates have satisfied the examiners:—

Aldridge, Gladys V., Poplar	Dibden, R. J., Reading
Arthey, J. H., Clacton	Dinwiddie, R., Bolton
Asten, Elsie, Bacup	Dowse, V. J., Colchester
Atherton, C. C., Hucknall	Duncan, G. C., Gourock
Ball, J. E. W., Nottingham	Evans, J. H., Haverfordwest
Barker, R. C., Bournemouth	Fildes, S. D., Bournemouth
Barkey, M. F. G., Torquay	Firth, C., Lincoln
Barlow, Muriel H., Prestwich	Flowerdew, C. P., Margate
Bean, H. S., East Ham	Foreman, C. A., Chesham
Beckley, A. N., Southampton	Foster, J. B., Southwell
Beckwith, R. W., Tufnell Park	Fox, R., Rotherham
Bernard, A., Hammersmith	Gamble, G. D., Bedworth
Berry, F. A., Pontypool	Gilpin, C. F. C., Luton
Best, E. B., Parkstone	Isaac, J. F., Maidenhead
Best, V. H., Littlehampton	Goddard, Gladys M., Bourne- mouth
Bosley, G. A. H., Didcot	Gray, Yvonne E., Solihull
Bourne, J., Coventry	Green, K. M., Darlaston
Bowman, S. C., Cambridge	Griffin, D. E., Grimsby
Breese, A. V., Croydon	Griffith, N. B., Hereford
Briggs, A., Lincoln	Griffiths, W. H. D., Haver- fordwest
Browning, B., Bedford	Hampson, W., Chorley
Carter, R. S., Chorley	Harries, J. A., Haverfordwest
Chapman, G. S., Clapham	Harris, H. F., Gillingham
Coad, Clara E., Derby	Harris, T., Norwood
Cole, C. W., Southampton	Hawley, H. T. M., Chelten- ham
Coles, C., Cheltenham	Hayden, D. G., Mundesley
Cook, R. P., Patricroft	Haydock, J., Leyland
Cooper, M. M., Stamford Hill	Heseltine, W. W., Bath
Cottam, A., Gt. Yarmouth	Hills, S. G., Eastbourne
Crampton, N. D., Newark	Hubbard, D. A., Cambridge
Croft, Mabel E. V., Mitcham	Hudson, Mary E., Erdington
Cronin, E. D., Acton	Hughes, D. A., Old Basford
Davies, D. C., Blaina	Humphris, N. F., Maidstone
Davies, L. G., Barry	
Dias, C., Baroda	

Hutchins, Dorothy J., Fulham	Pyle, Joyce M., Guildford
Jackman, D. S., Bradford	Rance, A. R., Camberley
Jarrett, W. D., Swansea	Regis, Winifred E. M., Horsham
Jenkins, E. W., Ynysddu	Richards, D. S. J., Luton
John, T. A., Llanely	Robinson, A. H., Stafford
Jones, K. C., Swansea	Robinson, M., Chesterfield
Lane, R. G., Gloucester	Rogers, G. G., Bridlington
Lemmon, R., Rossendale	Rose, W. K., Headington
Lewis, M., Brynamman	Shadforth, M. W., Bow
Lumley, J. A., Birmingham	Shaw, W. H. C., Nottingham
Luton, R. T., Chipping Sod- bury	Shirt, R. C., Stoke-on-Trent
McIver, A. K., Barrow-in- Furness	Shrive, B. D. S., Kensington
Maclaren, K. M. N., Barrow- in-Furness	Shrive, D. H., Peterborough
Makin, J. S., Radcliffe	Simpson, S. A., Chatham
Mansell, A. J. M., Bulawayo	Sims, J. S. H., Beddington
Mansfield, J. L., Peterborough	Soper, B. R. W., Kingsbridge
Marley, H. G., Paignton	Spencer, L. M., Sunderland
Marlow, J. D., Goodrich	Stott, A., Accrington
Martin, A. B., Leighton Buzzard	Stott, H. W., Royton
Mattison, C., Coventry	Strangward, G., Lowestoft
Mikhail, K. S., Cairo	Stratton, E. B., Shirebrook
Miller, D. D., Tufnell Park	Summerfield, E. C. V., Wood- bury
Millington, R. H., Bourne- mouth	Templer, Beatrix M., Ken- sington
Mole, W. J., Teddington	Thomas, E. P., Llanrwst
Montagnon, H. E., Leeds	Thomas, W. H., Swansea
Moon, B. G., Wednesbury	Till, L. A., Southsea
Morgan, P. I., Newport	Tuddenham, D. I., Bath
Moss, A. G. M., Blackwood	Vaughan, V. J., Romford
Newcombe, D. A., Chelten- ham	Vincent, R. T., Kingsbridge
Nix, H. W., Cambridge	Wain, S. F., Manchester
Nixon, G. A., Liverpool	Walling, H. E., Colchester
Nott, T. J., Swansea	Wallom, F. H., Wallington
Oliver, B., Bath	Wartenberg, F., Golders Green
O'Malley, B. J. M., Brighton	Wavell, E. J., Carshalton
Overy, Mary G., Lowestoft	Whatmough, G. W., Lincoln
Parry, Mildred E., Dartford	Whitmee, E. H., Hull
Payne, J. B., St. Margarets	Willcocks, C. T., Totnes
Pearce, L. L. J., Portsmouth	Williams, E. C., Swansea
Pemberton, R., Burnley	Winograd, R., Golders Green
Perry, F. C., Cambridge	Wintle, Audrey I., Aber- gavenny
Phillips, J. R., East Dulwich	Witt, J. R., Southampton
Plater, S. J., Thame	Wood, C. J., Rainham
Potts, T. H., Croydon	Woolgrove, L. H., Coventry
Price, C. J., Southsea	Wortley, K. P., Coventry
	Yorkstone, T. A., Boston
	Young, A. W. C. A., Seaford

PHARMACEUTICAL CHEMIST QUALIFYING EXAMINATION

The results of the Pharmaceutical Chemist Qualifying examination held in London this month were: Passed, 41; failed, 8; referred, 11; absent, 1; total, 61.

The following candidates satisfied the examiners:—

Ballard, C. W.	Marshall, P. B.
Barker, T. E.	Martyn, Margaret
Bearman, A. J.	Mayers, E. S.
Clapham, P. C. H. V.	Nyman, M. J.
Cocking, J. E.	Oakley, J. H.
Collison, R. W.	Owen, S. T.
Cooper, T. P.	Perkins, V. R.
Crofts, F. E.	Preece, J. W.
Davenport, M.	Rayner-Smith, Enid
Davies, Elizabeth E.	Roe, J. E.
Dinwiddie, F. J.	Rosser, L. V.
Donnelly, C. F.	Sage, C. H.
Fisher, D. E. G.	Seagrave, O. J.
Hadgraft, J. W.	Short, Eileen I.
Helme, T. N.	Simmonite, D.
Humphries, G. R.	Stevens, E. P.
Jones, W. P.	Walton, A. F.
Landshut, Eva B.	Ward, E. W.
Lightbown, J. W.	Williams, Hazel
Looker, Janet M.	Williams, W. H.
Marriott, P. H.	

Branch Representatives' Meetings

MEETINGS of representatives of the branches of the Pharmaceutical Society were held in Birmingham on July 18 and 19, the president (Mr. Walter Deacon) in the chair. The following is an abridgement of the official report.

After the adoption of the rules of procedure, it was agreed to make no fresh appointments to the Committee of Inquiry in the place of Dr. Bryant, resigned, and Mr. Wilson, elected a member of the Pharmaceutical Society's Council. Messrs. Gough and Macdonald Murray were elected in their place to consult with the Organisation Committee on matters arising from the representatives' meetings, and Messrs. Culbert, J. L. Hirst and Ratcliffe were re-appointed for the same purpose.

Apprentices

MR. J. H. GOUGH (Leeds and District) moved:—

"That it is the opinion of this Conference that the clause in an apprentice's indenture relating to an allowance of time off for study should be deleted."

MR. GOUGH, in proposing the motion, said that they were all aware that a clause in the indentures said that a master must allow his apprentice time for private study or to attend classes. In Leeds they had found considerable difficulties in this matter. The resolution might be considered retrograde, but modern conditions called for clarification of the duties of master and apprentice. Attendance at evening classes was not recognised for the Preliminary Scientific examination. It was being compelled to allow time for study to which members in Leeds objected. The apprentice had to attend classes out of his master's time. This was not only inconvenient to the master, but also, in their district, time spent in the shop was most useful to the apprentice. He felt that it was necessary that the Council should revise the clause in the indentures, but the Leeds Branch felt that it would be better if the whole clause were expunged.

MR. N. N. ARMITAGE (Leeds) formally seconded the motion.

MR. C. J. YEATES (Plymouth) said that it was not in the interest of the apprentices to curtail the time available for acquiring business knowledge. The Society was formed for protecting those who carried on the business of chemist. The business of the chemist was the supplying of medicines. If the Council considered that two years was necessary for acquiring information from books, how could they consider that a lesser time was necessary for experience of business knowledge? He supported the motion.

MR. P. F. ROWSELL (chairman of the Education Committee) said that it had already been pointed out by Mr. Gough that the clause was that "the pupil shall devote to private study or attendance at classes as the case may be such time as may be determined by the local Branch of the Society or in default thereof by the Council of the Society." He thought that it would be unfortunate if a young man who had left school and serving his apprenticeship should have no time for study. Three or four hours a week should be allowed for the purpose at a time most convenient to the master. He asked the Conference to think very seriously before recommending the abolition of this advantage to the student.

MR. GOUGH, in reply, said they found that the apprentice did not go to classes not necessary for the examination.

The motion was lost.

Benevolent Fund

MR. TREVOR THOMAS moved, on behalf of the Aberdare and Merthyr Branch:—

"That it is the opinion of this Conference that the Council of the Society should devote 1s. 6d. from the annual membership fee of 31s. 6d., yearly, to the Benevolent Fund."

The motion was duly seconded.

MR. H. HUMPHREYS JONES (Liverpool) said that it would no longer be a Benevolent Fund if this were carried out. It ceased to be a Benevolent Fund once it became a rate or tax. Members would not like to be deprived of their freewill offering on other days than Sunday.

MR. C. W. HOBSON (Sheffield) reminded the meeting that there were members who added something to their membership fee annually. If compulsion were to be introduced, many members would not add the 10s. 6d. to their subscriptions.

MR. J. REED (West Ham) said such a proposal would never have come from West Ham. He represented an industrial area, yet members there gave freely to the Benevolent Fund. A resolution as was suggested was no solution to the problems of the Benevolent Fund, and if it were passed all other contributions would cease.

The motion was lost.

Branch Organisation

MR. C. W. HOBSON (Sheffield and District) moved:—

"That it is the opinion of this Conference that the grant per member to Branches for administrative purposes should be not less than 2s. 6d. per member."

MR. HOBSON said that the grant was essential to carry on branch work satisfactorily. A large branch had to engage large rooms for meetings and pay heavily for circularising.

MR. E. A. KIRMAN (Sheffield), in seconding, pointed out that at the present time they had great branch activity, of which they had had a vivid example a month previously. The local branch had become more and more the central point of pharmaceutical activity. The present fee was hardly enough to keep activities going throughout the year. The other sixpence would make all the difference between a branch being alive or moribund.

A representative asked if it would not be possible for those branches who were in financial straits to have a grant if their work justified it.

A Leeds representative said that it was not possible for any branch which was really alive to exist on less than 2s. 6d. Leeds was a live branch, and they knew it could not be done. It meant curtailing expenses or running into debt and hoping for charity for the following year from the Society.

THE TREASURER (Mr. H. W. Wallis) pointed out that if 2s. 6d. were granted to every branch whether they asked for it or not it would cost £500 a year net to the Society. He would advise strongly against giving it to all irrespective of whether they claimed it or not.

MR. T. A. DURKIN (Blackpool) said that the Blackpool Branch was reputed to be one of the most affluent in the country; but if it were so that was only due to the efforts of the branch itself. Last year they had been unable to make any money, and they closed with a deficit. No branch had the right to depend on its social functions. Social events were attended by comparatively few members of the branch, and they should not have to find all the money.

THE TREASURER pointed out that the grant was 2s. If the activity of the branch and the state of its balance sheet justified it, the extra sixpence was available.

MR. HOBSON, replying, said that £500 would be well spent by live branches. The live branches were entitled to money not required by the dead branches.

The motion was lost.

Branch Representatives' Expenses

MR. E. A. KIRMAN (Sheffield and District) moved:—

"That it is the opinion of this Conference that the expenses of delegates to the Annual Conference should be borne by the Society."

MR. KIRMAN argued that the meeting was not a representatives' meeting, but a delegates' meeting, because the majority voted on definite instructions. He thought the representatives on this question should act as representatives and use their discretion. The time had come when they should be allowed 15s. or £1 a day for expenses.

MR. J. T. APPLETON (Sheffield) seconded the motion.

MR. E. N. BROWN (South-West Metropolitan) proposed the amendment:—

"That it is the opinion of this Conference that the Council of the Society should explore the possibility of making an

allowance for general expenses of branch representatives to the Annual Conference in addition to the railway fares."

MR. BROWN asked what were "expenses." There should be careful definition, and the Council should explore the possibility of allowing some reasonable expenses in addition to the railway fare so that they could get the best men there.

MR. H. G. TIBBETT (South-West Metropolitan) pointed out that some branches already made a grant from their funds towards the expenses of their representatives. It was not satisfactory that some should have their expenses paid and some nothing at all. They were asking for no more than exploration.

MR. D. HAWKINS (Plymouth) said that it was unsatisfactory for representatives to have to pay their own expenses. Many branches could not afford to pay their representatives and many representatives could not pay their own, so that none came. All branches should be represented, and the Society should pay at least a part of the expense.

A representative asked how many branches were not represented at the Conference.

THE TREASURER said that out of a possible 331 representatives the average number to attend was 209; if all attended and received an allowance of £1 per head, the cost would amount to £331.

The amendment was carried as an amendment and as a substantive motion.

MR. J. E. CROWE (Sheffield and District) moved:—

"That it is the opinion of this Conference that the Council should act at the earliest possible date on any Conference resolution which receives a two-thirds majority vote."

MR. CROWE criticised the value of holding a Conference year after year if resolutions sent to the Council were allowed to lie on the table.

MR. C. W. HOBSON (Sheffield) formally seconded the resolution.

MR. R. MACDONALD MURRAY (Tees-side) said he would like to associate himself with the motion. When the representatives passed a resolution it should receive the very serious consideration of the Council.

MR. R. E. JACKSON (Newcastle) opposed the resolution.

MR. W. J. TRISTRAM (Chester) pointed out that these meetings were representatives' meetings and not delegates' meetings. Members should come to the meeting and vote as they thought best after hearing the discussion. That was sufficient reason for not adopting any motion of that description. At the February Council meeting the list of motions was submitted. He would not like the Council to be tempted to delete any motion simply because it might be voted upon favourably by the Conference with the result that the Council was compelled to put it into operation. The control of the affairs of the Society must rest with the Council, according to true democratic principles.

MR. P. D. J. SPAANDERMAN (Mansfield) asked the movers of the motion to define the word "act" in their motion.

MR. C. YEATES (Plymouth) said that the Conference was the opportunity of the members to make known to the Council the improvements they considered desirable. Members of Council were elected for three years. If they had not brought about improvements it was reasonable that they should make way for others.

THE CHAIRMAN pointed out that all resolutions of Conference were reported to Council and then referred to the appropriate Committee, where they were carefully considered and sent back to Council. Finally the representatives were notified of the Council's decision. It was sometimes necessary for the Council to make a decision contrary to recommendations of the Conference by reason of their fuller knowledge.

MR. CROWE stated that the definition of the word "act" was "to carry out the wishes." He referred to the resolution of a previous Conference that the asterisk against the name of the retiring Councillors should be omitted from the Council voting papers. The Council had not adopted that resolution.

The motion was lost.

MR. H. COBBOLD (Oldham and District) moved:—

"That it is the opinion of this Conference that resolutions at the Conference should only be voted on by accredited delegates from branches."

MR. S. YATES (Oldham) formally seconded the motion.

MR. W. J. TRISTRAM (Chester) asked the meaning of the motion. He was under the impression that those who were not representatives did not vote.

MR. T. A. DURKIN (Blackpool and District) moved as an amendment:—

"That it is the opinion of this Conference that all resolutions at Conferences should be taken on 'card vote' of the number of members which each delegate represents at the Conference and not on individual votes."

MR. DURKIN said his branch considered that that method should be adopted in place of the method of individual votes. It was only on account of the "two-thirds majority" point that they brought forward the amendment. Resolutions should represent the intention of the majority of members of the Society and not only of those who attended the meeting.

MR. F. H. STUTTARD (Blackpool) seconded the motion. Their only aim was to ensure true representation.

THE SECRETARY expressed the view that if the amendment were adopted by the meeting they would be changing from a representatives' meeting, where everyone made up his own mind, to a delegates' meeting, where presumably they were only entitled to vote according to instructions brought from their branch. At the meeting there was one London branch with six representatives. They might vote three one way and three another, according to their own views after listening to the discussion. But on a card vote they could not express similar divergence of views.

MR. W. J. TRISTRAM (Chester) said that the block vote employed by trade unions was open to a good deal of objection, but they put up with that because one member might represent 130 members and another 130,000. There was in the Society's case some relation between the number of representatives and the number of members in the branch. Their present system was democratic and should not be altered.

MR. R. E. JACKSON (Newcastle) opposed the motion on the ground that members would not be able to express their views as individual representatives, and that they would not get through anything like the amount of business. They had useful discussions by which he felt both they and the Council benefited very much.

MR. COBBOLD said that the motion he had proposed was sent up from experience gained by representatives at previous Conferences. They had felt that votes had been given by persons not entitled to vote. The meeting should be in a separate room and no visitors admitted.

MR. D. W. A. DESMOND (West Ham) asked what was the necessity for visitors.

THE SECRETARY explained that it was a long-standing agreement with the Executive that members of Conference who were not representatives should have the privilege of attending the representatives' meetings.

The amendment was defeated and the motion carried.

Co-option to Council

MR. J. T. APPLETON (Sheffield and District) proposed:—

"That it is the opinion of this Conference that the Council should give consideration to co-opting a retail employee pharmacist as member of Council when the next or any vacancy occurs on the Council."

MR. E. A. KIRMAN (Sheffield), seconding the motion, said that there were among employees some really good pharmacists, capable of giving excellent representation on the Council.

MR. C. YEATES (Plymouth) questioned whether the Council was wise to continue using its power of co-option contrary to the wishes of the members. They considered it unnecessary and an interference with their right to elect the Council. He appealed to the Council to forgo co-option in favour of voting.

MR. J. REED (West Ham) said that, being a democratic body, their branch committee included employee members as well as managers and pharmacy owners. When their committee was considering this motion it was the employee member who opposed it. He was a very active member of the employees' association. He considered it an insult to employees to put their members on the Council in this manner. They had quite sufficient members to vote a man to the Council if the members had the enthusiasm to do it.

MR. S. YATES (Oldham) said that he also, as an employee, objected very strongly to the suggestion.

MR. T. A. DURKIN (Blackpool) said that he was an employee but was not in favour of the proposal. He considered it a reflection on the Council to suggest that they should be forced to co-opt a member from any particular group.

MR. APPLETON said that there was a necessity to co-opt by

the by-laws. Possibly many objected to co-option, but until the by-laws were altered there was no purpose served by objecting.

MR. T. A. DURKIN (Blackpool) suggested that when a vacancy occurred the Council should not omit to consider co-opting an employee as much as any other class of member.

The motion was lost.

Organisation of Pharmaceutical Employees

MR. G. A. WEBSTER (Bradford) moved:—

"That it is the opinion of this Conference that it is to be regretted that the Pharmaceutical Society has not taken active steps to co-ordinate the various employees' organisations in pharmacy."

MR. WEBSTER said that at the Edinburgh Conference the proposal that the Society should take steps to organise employees was defeated by a majority of nine. During the debate it was recognised that the absence of a responsible organisation which could speak for all employees of pharmacy was a serious handicap. Many organisations were already in existence.

MR. K. J. WALKER (Bradford), seconding, said he felt that there should be some organisation so that the employees and employers could speak with one mind. There should be a business association of all pharmacists.

THE SECRETARY said that should the resolution be defeated he hoped the two members from Bradford would not be disappointed, because he knew they were keenly interested in the organisation of employees. The Society could not spend money on employees against employers or on employers against employees. It must treat both alike. The Society was not entitled to consider the interests of one section only. They had their assistants' organisations and the N.P.U. representing employers. If they wanted to come together under one umbrella the Society was available, but it could not take sides.

MR. WEBSTER said the object of the motion was not to ask the Council to spend money but to explore the possibility of co-ordination. They did not want competition. They wanted the organisations to be co-ordinated and to work together. A divided country was never strong, and that was what they must avoid.

THE CHAIRMAN said that if employees wanted to meet, the Society's houses in London and Edinburgh were at their disposal and were used.

The motion was lost.

Pension Scheme for Pharmacists

MR. J. E. CROWE (Sheffield) moved:—

"That it is the opinion of this Conference that the Council should appoint a committee to consider the question of forming an unemployment and pensions scheme for pharmacists."

MR. CROWE hoped every representative there had closely studied the paper which was the reply of the Council to the resolution that was passed at the last Conference. That was not the way to tackle the job. One shilling by employee and one shilling by employer for a man of twenty-one was possible. That would provide a pension of ten shillings a week. If the one shilling were increased by one penny a year after twenty-one the scheme could be carried out up to the age of forty-five. He was sorry for those above forty-five, because it was impossible to bring them in. They must make a start. Other unions had pension schemes, and the Society would accumulate enough money if it were not to be used for twenty years. He hoped that all would give it support.

MR. J. T. APPLETON (Sheffield) seconded the motion.

THE SECRETARY said that he assumed that representatives had read the report of the Finance Committee of the Council circulated in connexion with the report on matters arising from the branch representatives' meeting at Edinburgh. It was an attempt to find out what was the best that could be done for members of the Society. There were three ways in which the Society had been advised that the problem could be tackled. Where any scheme for pharmacists fell down was that it was not possible to guarantee that the young men coming in would join and thereby help to balance the older men who were gradually passing on at the other end; and there could be no guarantee of any contribution from employers. In those two respects any scheme that was put forward must differ entirely from any type of group pension scheme where there was compulsion, as for example among teachers. It was because there

was absence of compulsion that they were thrown back on the simplest solution, namely, each man making his own provision. As a result of the work of Mr. Guthrie, the Society had obtained special terms from the three companies mentioned in the report, and any member who had taken up his own life assurance policies and who compared them with those would agree that the Society had done well. To suggest any other possible scheme would be to mislead them.

MR. K. J. WALKER (Bradford) said that if any branch could suggest a scheme they ought to send it to the Finance Committee to consider.

MR. E. CRONIN (Manchester) said that last year he had supported the resolution at Edinburgh and they had since gone into the matter very thoroughly. He took a census from January last until April as to requirements of employers and employees appertaining to a pension scheme. Eighty-two per cent. of employees said they could not afford to pay anything to a pension scheme. Of the employers about 90 per cent. would join the scheme, but they, until conditions improved, found it impossible to pay anything, even for themselves.

MR. CROWE said that Mr. Linstead had taken no steps whatever to ascertain whether the employers in pharmacy would support a pension scheme for employees.

The motion was lost.

Pharmacists in H.M. Forces

MR. H. HUMPHREYS JONES (Liverpool) proposed:—

"That it is the opinion of this Conference that the Council should continue to press, with unremitting vigour, for commissioned rank for pharmacists holding pharmaceutical positions in his Majesty's Forces."

MR. HUMPHREYS JONES said that this was a very big question, which had now become very much bigger as a result of conscription. The motion should be wider than it was and deal with pharmacy in the Army apart altogether from the officers' point of view. In connexion with medicine-stamp duty, pharmacists had shown what they could do. If that could be done in connexion with medicine-stamp duty, it could be done in connexion with a pharmaceutical service in the Army. Pharmacy was not recognised in the Army. It should be. If time had permitted, he would have referred to a report which appeared in 1906 by the late Surgeon-General Evatt. Pharmacists were recommended at that time not to have anything to do with the Army except as commissioned officers.

THE CHAIRMAN said he would like to have the honour of seconding the motion.

The motion was carried.

Pharmacy Acts

MR. H. COBBOLD (Oldham) moved:—

"That it is the opinion of this Conference that Sections 8, 9, 10 of the Pharmacy and Poisons Act, 1933, should be strictly enforced, and that no corporate body should be encouraged to have these important clauses deleted or amended."

MR. COBBOLD said he understood that it was not the desire of the pharmacists, but of the co-operative societies, that they should sell medicaments in grocery departments, despite the fact that there were drug departments. His branch felt that these sections of the Act should be strictly enforced.

MR. S. YATES (Oldham) seconded the motion, which was carried.

Retail Sale of B.P. and B.P.C. Preparations

MR. H. STEINMAN (Manchester) moved:—

"That it is the opinion of this Conference that the sale by retail of all B.P. and B.P.C. medicinal preparations should be confined to pharmacists."

MR. E. CRONIN (Manchester) seconded the motion.

THE SECRETARY said that if there were legislation in the terms of the motion, slight modification of any formula in the B.P. or B.P.C. would evade the object of the motion. Secondly, they had to remember that the B.P. and the B.P.C. were books the contents of which, in one case entirely and in the other case largely, were controlled by pharmacists. No government would recognise those books for that purpose under those conditions of compilation.

The motion was lost.

(To be concluded)

BRITISH PHARMACEUTICAL CONFERENCE 1939



1. Scottish group including Messrs. Watt, Tainsh, and Sutherland.

2. A group including Mrs. Teare, Mrs. Goldthorpe, Mrs. Franklin, Mr. and Mrs. Walsh, Messrs. Miller, Aves, Steinman, Prior and Griffiths.

3. A Welsh group including Messrs. Wallis, Howells, Humphreys Jones (the new chairman), Knox Mawer, Thomas, Lloyd, Williams, Gower, Hague, Evans and Livsey.

4. Captain and Mrs. Spark, Mr. Williamson, Mr. Yeates.

5. Another Welsh group.

6. From N. Ireland : *Left to right* (front row) : Mr. Tate, Mrs. Martin, Mr. and Mrs. Storey. (Back row) : Mr. Martin, Mr. Abernethy, Mr. Kirkpatrick, Miss Storey. (Centre) : Mr. E. W. Mann, chairman of the Local Committee.

7. Mr. Gemmell, Dr. Tait, Mr. Watt, Mr. Penman and Dr. Blackie.



British Pharmaceutical Conference 1939

Social Side

SECRETARIES' MEETING.—Almost pre-Conference was the meeting of Branch secretaries held on Monday afternoon, July 17. The Press was not admitted, but it is understood that after partaking of tea the secretaries kept going a lively discussion for well over an hour and a half.

MEETING OF SCOTTISH MEMBERS.—At the conclusion of the opening session an announcement was made that all Scottish visitors to the Conference, whether resident in Scotland or in England, Wales or Ireland, were invited to meet Mr. W. F. Hay (chairman, North British Branch of the Pharmaceutical Society) the same afternoon in the physics lecture room of the University.

TUESDAY'S LUNCHEON.—A feature of the Conference was that the Science Sessions were held so far from the Conference headquarters that the visit to the University became virtually an all-day excursion. Luncheon was consequently served at the University, where one of the rooms in the engineering section had been specially cleared for the purpose. Despite rain outside, Tuesday's function was cheerful, though somewhat late on account of the delayed return of the ladies from their morning excursion.

GOOD ATTENDANCE.—One noticeable and gratifying feature of the Birmingham Conference was the much better attendance at the science meetings. Whereas one has attended science sessions with an audience of from ten to twenty, the average at Birmingham rose to fifty or sixty. The reason for this was variously attributed to the more practical character of the contributions, and to the fact (as Mr. Peck put it) that Mr. Rutherford Hill, who has always something useful to say, was in the chair. The total number of visitors attending the Conference is estimated at 440.

TRANSPORT ARRANGEMENTS.—On all sides one heard high expressions of admiration for the excellence of the transport arrangements, which were under the cheerful and imperturbable direction of Mr. H. H. Marshall. To anyone knowing the intricacies of Birmingham's traffic regulations, it was apparent that the smoothness of the working of this important item (especially when one remembers that the University is nearly three miles from the centre of the city) was nothing short of marvellous. Mr. Marshall's quiet efficiency in this connexion was acknowledged by Mr. Rutherford Hill and Mr. Mann.

BANQUET SPEECHES.—By general agreement, the speeches at the banquet were of an unusually high order. Sir Thomas Robinson led off in his characteristically breezy fashion with incidental Irish stories which put the audience in good humour, and the last speaker (Dr. D. S. Anderson) spoke likewise in a lighthearted vein. An excellent and thoughtful oration by Alderman Byng-Kenrick (chairman of the Birmingham Education Committee) ended with a quotation from Jacob Bell, which, singularly enough, was practically on the same lines as that given by Mr. Rutherford Hill in his opening address.

SPORTS AFTERNOON ARRANGEMENTS.—Torrential rain during luncheon at the University on July 19 threatened to necessitate cancelling the sports programme and garden party in the afternoon, but the local assistant secretary made the announcement that all events would be held despite the weather. Sufficient indoor accommodation was available at the Botanical Gardens to meet all requirements, and an orchestra had been engaged to provide a musical programme. At 2 p.m., therefore, omnibuses left the University for Bromsgrove (golf) and Bournville (bowls), and at 2.15 'buses carried the remainder citywards, to collect the visitors again at their various hotels at 3.15 for transport to the Botanical Gardens at Edgbaston.

INFORMAL GARDEN PARTY.—Conference visitors with cameras were much in evidence at the Botanical Gardens on sports afternoon, when an informal garden party, arranged "for those visitors not taking part in the sports," attracted over 300 Conference members and local pharmacists. The garden party lasted from 3.30 to 5.30, and a period of bright sunshine lent an almost tropically humid heat to the gardens, appropriate, it seemed, to the llama, monkeys, parrots, bears and other creatures from other climes. The Society's new Hanbury

medallist was among the visitors, but his interest in the plants was of too general a character to suggest that he was taking a "busman's holiday." Tea was provided in a glass plant-house, and an atmosphere in keeping with the sunny weather prevailed.

GOLF.—The match for the Edmund White trophy and replica, played at the Blackwell Golf Course, near Bromsgrove, was won by Mr. J. Frost (71), with Mr. H. Burlinson (74) runner-up. The runner-up received a hammered pewter tankard with etched glass base, and a similar prize is awarded to Mr. T. H. Wilson for the best aggregate score for any player, other prize-winners excepted. Mr. Wilson's score was 91.

BOWLS.—In an England v. Scotland bowls match held by courtesy of the proprietors at the green of Cadbury Bros., Ltd., Bournville, the teams were:—*Scotland*: W. S. Culbert, Glasgow (skip); D. Gemmell; C. A. Buick; J. H. Tainsh. *England*: W. A. Burnage, Tavistock, Devon (skip); W. I. Scholes; J. Reed; D. Anderson. Fifteen ends were played, and the result was Scotland, 17; England, 11. Inscribed tankards were presented to each of the Scottish team. There were few entries for an open competition, which was won by Mr. J. H. Mason (Bournemouth) with a score of 17 (15 ends). Rain interfered with play at start and finish of the competitions, but both were played through. Messrs. Cadbury then kindly provided tea in their pavilion and presented each player with a souvenir of his visit. The winner received an inscribed tankard. Mr. Burnage expressed the thanks of the players to the representative of Messrs. Cadbury (Mr. Clack), who suitably replied on behalf of the firm. Arrangements for play, which proved most satisfactory, were in the hands of Mr. Arthur J. Burford.

VISIT TO QUEEN ELIZABETH HOSPITAL.—After lunch, on July 19, a party of about thirty was conducted over the new Queen Elizabeth Hospital by Mr. E. G. Speakman, Ph.C. (pharmacist to the hospital). The building is situated a short distance from the University, and, together with the medical school and nurses' home in adjoining buildings, constitutes the first instalment of the Birmingham Hospitals Centre scheme. The party, among whom were Mr. and Mrs. H. Skinner, Dr. J. J. Blackie, M. C. E. Corfield, Dr. J. Coutts and Mr. A. E. Footitt, first inspected the dispensary and adjacent galenical laboratory and bacteriological room (an account of which was given in the *C. & D.*, July 15, p. 56). The department has been designed on a scale large enough to provide galenicals and dispense medicines not only for the in-patients and out-patients of the hospital, but also for the Queen's Hospital, Bath Row, a little distance away. During the tour Mr. Speakman told the party that the hospital was officially opened on January 1, 1939, although the first patient had been received on the previous day. When the building is complete its total capacity will be about 730 beds. At present accommodation is available for approximately 500 patients, but only about half that number were actually in the hospital. Among the other departments inspected were a pipe-line room which provides nitrous oxide, oxygen and carbon dioxide on tap direct to the five operating theatres on upper floors; sterilising department, consisting of two rooms and fitted with sterilisers which communicate with both rooms, so that dressings can be placed in one room and removed after sterilisation from the other; operating theatre; surgeons' and sisters' dressing rooms; private and general wards; kitchens and special-diet-preparation rooms; biological and bacteriological departments. Among the many modernities introduced into the building which especially interested the party were the operating theatre viewing box for x-ray plates inspection, which was fitted with a dimming control regulating the intensity of light through the plate; a multi-colour flashing-light system in the corridors for summoning officials of the hospital; rubber floor-covering laid in the majority of the corridors; and the beautifully furnished and well-equipped nurses' quarters with adjoining lecture theatre. In addition to his duties in the dispensary, where he is assisted by two other pharmacists, Mr. Speakman undertakes the training of nurses, medical and Apothecaries' Hall students in pharmaceutical subjects.

BRITISH PHARMACEUTICAL CONFERENCE 1939

BENEVOLENT FUND COLLECTION.—The ladies were much in evidence all through the Conference in a scientific as well as a social capacity. Mrs. Irvine, Mrs. Skinner, Miss Blundell, Miss Mozley-Stark and other members of the National Association of Women Pharmacists were active in entertainment, propaganda and benevolence. At the luncheon on the day of the closing session it was announced that they had collected over £30 for the Benevolent Fund—and were still collecting. Mrs. Irvine alternated between the Science Section and the Branch Representatives' meetings. In the Science Section, Mrs. S. M. Tritton (another N.W.A. member) gave a paper (*C. & D.*, July 22, p. 103), which received the approval of no less an authority than Dr. Hampshire, while Miss Rosemary Butterfield contributed (in association with Mr. A. E. Wallis) a very comprehensive histological survey of belladonna flowers. Nothing but the warmest praise was heard for unremitting and unobtrusive work done by the local ladies' committee. The high spots in their endeavours were the provision of a beautiful marcasite brooch to each lady present at the banquet, boxes of chocolate to all ladies in the Stratford-on-Avon theatre party and cigarettes on each of the excursions.

BRANCH REPRESENTATIVES MEETINGS.—The main feature of the meetings of the branch representatives of the Society was the expedition and good humour which prevailed as a result of skilful handling by the president (Mr. Walter Deacon). On the first day no fewer than fifteen of the total of eighteen motions and amendments submitted by branches were disposed of—a record for these meetings. This left only three debatable motions, a discussion on the position as regards medicine-stamp duties and the reappointment of representatives to consult with the Organisation Committee and to serve on the Committee of Inquiry. As regards the latter committee, Messrs. W. S. Culbert, J. L. Hirst and E. Ratcliffe were re-elected, and on a ballot Mr. Macdonald Murray and Mr. J. H. Gough were elected to fill the vacancies caused by the resignations of Dr. E. G. Bryant and Mr. F. C. Wilson. Another agreeable interlude was the presentation to Mr. Thomas Guthrie by the president of a replica of the presidential badge—a ceremony which had not been possible before owing to Mr. Guthrie's resignation from the Council.

THE STRATFORD-ON-AVON EVENING.—The journey to Stratford-on-Avon (after the closing session on July 20), the dinner on the terrace overlooking the Avon, and the play afterwards in the Shakespeare Memorial Theatre proved a novel and delightful experience. Like all the other functions connected with the Conference, it was carried through without a hitch, and it was pleasing to learn from the reception secretary of the theatre that the goodwill and obvious enjoyment of the (largely) pharmaceutical audience had so inspired the Festival Company players that they gave an outstanding performance. The play was "The Taming of the Shrew," and the acting of Alec Clunes (as Petruchio), Vivienne Bennett (as the Shrew) and Jay Laurier (as Christopher Sly) was of a particularly high standard in an excellent caste.

DAY EXCURSION.—The whole-day excursion on July 21 was not unduly marred by bad weather. There was a heavy mist overhanging the city as the party left, but that did not lessen the pleasure one got from hearing a carillon concert specially produced for us at Bournville, where we halted for a quarter of an hour. Then on sped the twelve coaches through Redditch to quaint Inkberrow. Another short halt, and then on to Worcester, with its lovely Cathedral. Luncheon was served in the Guildhall, a fine specimen of Queen Anne architecture. There was not much time to inspect this ancient and historic city, for there was a long drive before us through the Vale of Evesham and the Cotswolds. Our next objective was the far-famed beauty spot, Broadway, where tea was served with an appropriate raspberry-and-cream adjunct. We had passed through miles of orchards and fruit farms, and even the local pharmacy (that of Mr. Foss) has a pear tree hanging over its quaint low-windowed front. This pharmacy was an object of envy and admiration among the visitors who have, in the main, to pursue their calling amid less romantic surroundings. Each visitor was presented at Broadway with an illustrated copy of "Cotswold Country." Leaving Broadway, the coaches slowly mounted the long Five-Mile Drive, where on the summit one gets a glorious view of Broadway and the surrounding country. Other beauty spots such as Chipping Camden and Mickleton were visited on our way back through Henley-in-

Arden to Birmingham. Besides its fame as a picturesque old town with a fifteenth-century Guildhall and Market Cross, Henley-in-Arden is celebrated as possessing the pharmacy of Mr. T. R. Perkins, who is an expert on railways—as *C. & D.* readers know.

LADIES' EXCURSIONS.—It was notable that this year the ban on the men joining in the ladies' excursions was not so strictly enforced as it has been during the past few years. On July 18 there was a short excursion to one of Birmingham's numerous recreation spots—the Lickey Hills. This included passing through two interesting Worcestershire villages, Chaddesley Corbett and Belbroughton, and on the way the excursionists had the opportunity to glance at the magnificent Queen Elizabeth's Hospital, the very latest in external and internal design of that type of building. The party returned to the University for luncheon and in the afternoon were the guests of Cadbury Brothers, Ltd., at the celebrated Bournville organisation where they inspected the model factory and the amenities provided by the world-known chocolate firm in their garden village with its population of 7,500. The box-making and packing departments with the very latest in plant and appliances were, however, overshadowed in interest for the ladies by the opportunity to observe the means provided for the welfare of the workers. The dining block, with provision for dining about 6,000; the concert hall, capable of holding 1,050 persons; the recreation grounds, playing fields ninety-six acres in extent; the pavilion, garden club, pleasure park and open-air swimming pools, shower-baths and facilities for sunbathing—each came in for their meed of appreciation. After walking and driving round the various points of importance in this self-contained community the Conference ladies were given tea and a box of chocolates each.

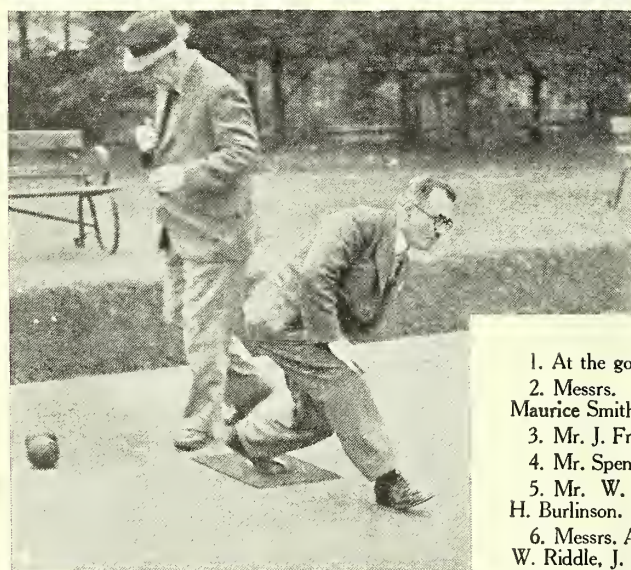
UNOFFICIAL WORKS VISITS.—In the course of the week one or two parties of Austin motor-car owners have taken the opportunity to run out to Longbridge to see at the enormous motor works there—the whole process of producing cars at the rate of 2,500 per week.

CONFERENCE PHOTOGRAPHS.—Copies of the photographs published in the *C. & D.*, July 22, and in this issue, are obtainable from Taylor's Press Service, 366 Soho Road, Handsworth, Birmingham, 21, at 2s. 6d. each, post free. The name of the fourth gentleman in picture No. 1 on p. 107 should read K. J. Walker and not as printed.

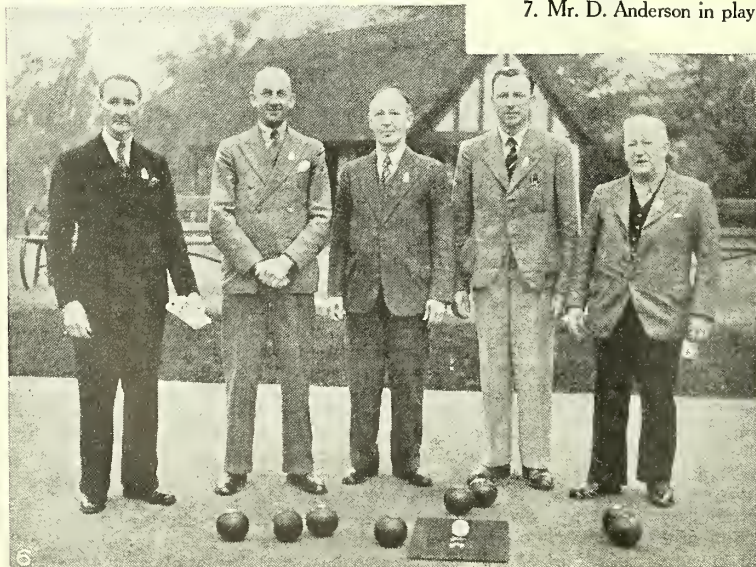
EXCURSION TO LEAMINGTON AND WARWICK.—Wednesday morning promised well, but soon "the word of promise was broken to the hope." Nevertheless the ladies (and their attendant cavaliers) could in comparative comfort enjoy the journey past Kenilworth Castle to the beautiful Spa of Leamington. There the company were welcomed by the mayor (Alderman C. Davis, member of the Council of the Pharmaceutical Society), the mayoress and the town clerk. Mrs. Rushton, on behalf of the visitors, thanked the mayor and mayoress for their delightful hospitality. The mayor and town clerk both replied, and their charm, combined with the beauty of their surroundings, completely conquered the hearts of the visitors. After Leamington, Warwick was visited and the castle and Church of St. Mary's were duly admired on the homeward route.

THE FINAL EVENT.—The final event took the form of a dance at the Grand Hotel on July 21, and it was remarkable in the number present and the enthusiasm shown up to the bitter end. Usually there is a perceptible thinning out by the last function, but not so this year. This fact was remarked upon by Mr. Rutherford Hill and others as indicative of the great success of the Conference. In an interval the prizes to the successful competitors in the sports competitions were presented by Mrs. Walter Deacon. Mr. Rutherford Hill paid eloquent tribute to the highly successful efforts of the Local Committee in organising and carrying out "the best managed and most delightful Conference he had attended in his fifty years' experience." He asked Mrs. Deacon to present mementoes in the shape of gifts to Mrs. Mann, Mrs. Rushton, Miss Smith, Mr. Mann, Mr. Thonger and Mr. Rushton. These tributes were endorsed with acclamation, and the president of the Society (Mr. Deacon) closed the proceedings on a happy and humorous note by presenting Mr. Rutherford Hill with a "surprise photograph" (which proved to be an excellent "still-life" of Mr. Hill's famous hat, walking stick and a book).

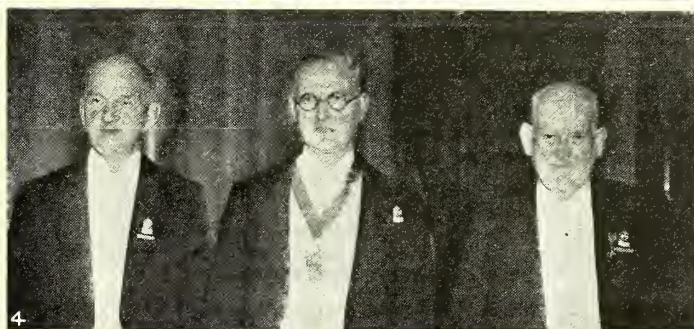
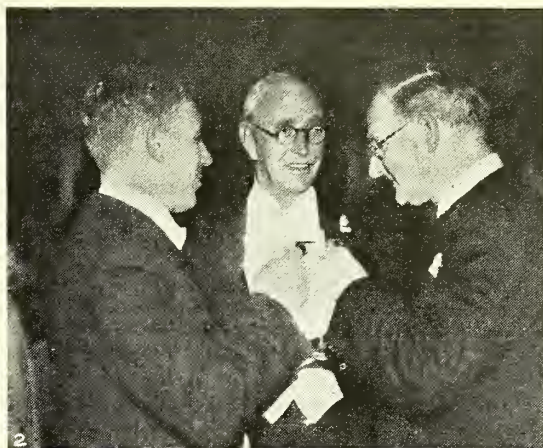
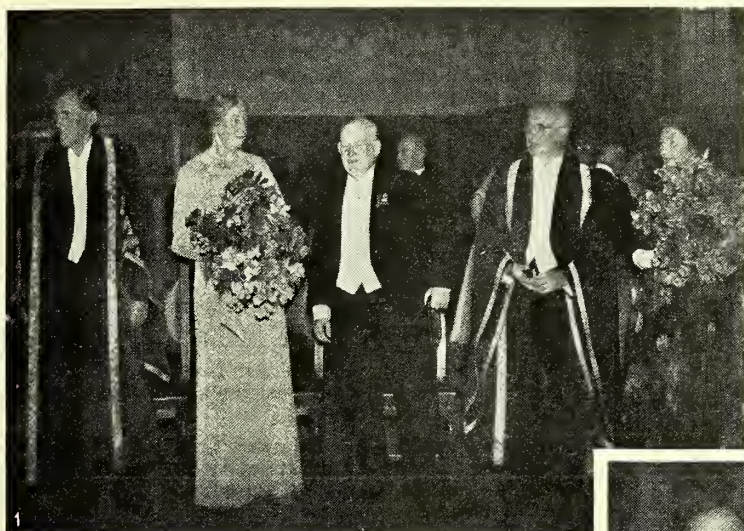
BRITISH PHARMACEUTICAL CONFERENCE 1939



1. At the golf tournament.
2. Messrs. G. M. Lloyd (*left*) and Maurice Smith.
3. Mr. J. Frost (winner).
4. Mr. Spence Culbert in play.
5. Mr. W. Jenner (*right*) and Mr. H. Burlinson.
6. Messrs. A. J. Burford, J. H. Mason, W. Riddle, J. W. Waterworth, G. Dixon.
7. Mr. D. Anderson in play.



BRITISH PHARMACEUTICAL CONFERENCE 1939



1. *Left* : The Pro-chancellor (Mr. E. P. Beale) and Mrs. Beale. *Centre* : Mr. J. Rutherford Hill. *Right* : The Vice-chancellor (Dr. R. E. Priestley) and Mrs. Priestley.

2. The President of the Society and Mr. Storey toast the winner of the golf tournament (Mr. J. Frost).

3. Mr. and Mrs. Harold Deane.

4. *Left to right* : Messrs. E. W. Mann, Walter Deacon and J. Rutherford Hill.

5. *Left to right* : Messrs. R. R. Bennett, J. Young and J. H. Franklin.

6. The youngest member of the Conference, Master T. P. Buick, aged thirteen.

7. The "Palais Glide" was popular at the Grosvenor ballroom on July 21.



Trade Notes

SEED DRESSINGS are advertised in this issue by Lofthouse & Saltmer, Ltd., manufacturing chemists, Hull.

SELO POSTER.—Ilford, Ltd., Ilford, urge chemists to display their Selo film poster in order to obtain increased sales of the company's sensitised materials during the holiday month.

FACE CLOTHS.—The Fenton Manufacturing Co., Ltd., 145 Farringdon Road, London, E.C.1, have introduced under the title Nuweave a floral design of face cloth, some particulars of which are given on another page.

HOT-WATER BOTTLES.—Dunlop Rubber Co., Ltd., Cambridge Street, Manchester, 1, give some particulars of their rubber hot-water bottles in their advertisement in this issue. Chemists should note that these are only obtainable through wholesale houses.

D.D.A. REGISTER.—James Townsend & Sons, Little Queen Street, Exeter, have brought out a new edition of their D.D.A. register which has been brought up to date in accordance with the present regulations. The introductory matter has also been revised.

PACKED PREPARATIONS IN TUBES.—Warrick Bros., Ltd., 6 Nile Street, City Road, London, N.1, specialise in supplying packed preparations in tubes which can be made according to the chemist's own formula under his own name and in a style reserved to him.

CAPSULE MAKING MACHINE.—S. W. Wilkinson & Co., Western Road, Leicester, are the makers of an electric motor-driven hydraulic press for producing gelatin capsules and perles. Particulars of the advantages claimed for this machine will be found in the company's advertisement.

ANADIN SHOWCARD.—Kolynos (Sales), Ltd., Chenies Street, London, W.C.1, have issued a new showcard, calling attention to the value of Anadin for headaches, rheumatism and similar complaints. Measuring 11 inches by 14½ inches, one of these showcards will be sent to chemists on application.

HURTLEY'S LITESOME BELT.—The national fitness campaign affords chemists an opportunity of improving their trade in belts and supports, and in this connexion a gift scheme, bonus parcel and selling aids are offered by Fred Hurtley, Ltd., Keighley, to enable them to link up with the company's advertising.

PEPSODENT BONUS.—Pepsodent, Ltd., Park Royal Road, London, N.W.10, announce that their sales have increased by over 26 per cent. in 1939 compared with the first six months of 1938, and in appreciation are offering a bonus available until the end of August, particulars of which will be found on another page.

MARTINS A TOOTH-PASTE.—Martins Preparations (1939), Ltd., Hanover Court, London, E.C.2, have placed on the market under the name Martins A a tooth-paste for which a number of advantages are claimed. Elsewhere in this issue will be found details of the composition of this preparation together with particulars of the trade terms.

THIONAIODINE.—The Anglo-French Drug Co., Ltd., Guilford Street, London, W.C.1, are calling attention to the new anti-rheumatic preparation known as Logeais brand Thionaiodine. This is a complex iodine-sulphur-magnesium combination available for intramuscular and intravenous injection and in tablet form for oral administration. It should be noted that urgent supplies of the pharmaceutical products handled by the Anglo-French Drug Co., Ltd., can be obtained from John Bell & Croyden, Wigmore Street, W.1.

CLOSED FOR HOLIDAYS.—Desitin Products, Ltd., Great Western Trading Estate, Park Royal Road, London, N.W.10, inform us that their offices will be closed from July 29 to August 8 inclusive. During this period, the company's products may be obtained from the distributors Coates & Cooper, Ltd., 94 Clerkenwell Road, London, E.C.1.—Pharmaceutical Specialities (May & Baker), Ltd., Dagenham, inform us that their offices and works will be closed from August 14 to 19 inclusive but a skeleton staff will be in attendance for the execution of urgent orders.

Proprietary Articles Trade Association

Council Meeting

THE quarterly meeting of the Council of the Proprietary Articles Trade Association was held on July 13 at the Hotel Russell, the president, Mr. L. Barclay, in the chair. The president referred to the illness of Mr. H. Nixon, which had prevented his attendance at recent meetings of the Executive Committee and Council, and expressed the Council's sympathy and their hopes for his speedy recovery. The recommendation of the Wholesale Section that during Mr. Nixon's absence his seat on the Executive Committee be taken by Mr. S. Watson was approved.

The Executive Committee reported to the Council that propaganda work on behalf of P.A.T.A. manufacturers and their goods had been continued. A series of advertisements in the trade Press on behalf of a group of P.A.T.A. dental manufacturers had been completed, and it was proposed that similar advertisements on behalf of members of other groups should appear at a later date.

The Council received with appreciation a communication from the City of London Hairdressers' Guild intimating the Guild's approval of the Association's efforts to eliminate price-cutting, particularly in perfumery and toilet shops, and offering their wholehearted support of such efforts. The Council also received a communication from the Committee of the Irish Drug Association intimating their appreciation of the price-maintenance work of the P.A.T.A. in Eire and expressing the Association's desire to co-operate more fully with the P.A.T.A.

The Council considered the reports of the three Sections and of the Executive Committee on the resolutions submitted by retail members at the annual meeting of the Association in April. The Council concurred with the views of the three Sections and the Committee that the suggestion regarding manufacturers' terms submitted by Mr. H. Craven, Sheffield, was impracticable of adoption, and also endorsed the view (ex-

pressed by all sections and the Committee) that the proposal made by Mr. E. Ratcliffe, Wembley (that no product be admitted to the P.A.T.A. Protected List unless it bears a profit of 33½ per cent. to the retailer), was impracticable of adoption. It was agreed that, as hitherto, each application for inclusion in the Protected List should be considered on its merits.

The Committee reported on the discussions which had taken place in the retail and wholesale sections following the announcement made by the Chancellor of the Exchequer in April that he proposed to repeal the medicine-stamp duty and the vendors' licence. In view of the Chancellor's subsequent decision to maintain the duties for another year, the recommendations were, in the main, left in abeyance.

The Committee reported that recently in the High Court a perpetual injunction against a retail trader to refrain from breaches of his agreement with the Association and, in another case, an interlocutory injunction against a wholesaler had been granted.

The secretaries' report on price-maintenance work during the past quarter showed that in certain parts of the London area the price-cutting position had materially improved, and that retail members of the Association in these areas had expressed their appreciation of what had been done. The Association's representatives had investigated conditions in, among other places, Cardiff, Brighton, Southend-on-Sea, Gloucester, Bristol, Glasgow and Liverpool with satisfactory results. During the quarter many new sources of supply to price-cutters had been discovered, and a number of retailers and wholesalers found to be implicated in supplies to the price-cutting trade had been placed on the stop list. Various instances in which it had been shown that price-cutters were in possession of stolen goods were reported to the Council. The report was adopted.

Births

Notices for insertion in this column must be properly authenticated.

BOWYER.—At The Woodlands Nursing Home, Birmingham, on July 20, Nan, the wife of Thomas Linley Bowyer, M.P.S., F.I.C., Birmingham Technical College, of a daughter.

BROCKLEHURST.—At the Townend Maternity Home, Hull, on July 23, the wife of Eric A. Brocklehurst, M.P.S., 214 Wilberby New Road, Hull, of a daughter.

CARRUTHERS.—On July 14, the wife of A. F. Carruthers, M.P.S., 436 Katherine Road, Forest Gate, London, E.7, of a son (David).

GERMAN.—At "Chumley," 83 Elm Drive, North Harrow, Middlesex, on July 22, Irene, the wife of Wesley J. German, M.P.S., of a son (Roger).

JACKSON.—At The Four Gables Nursing Home, Horsforth, Leeds, recently, Edna, the wife of Harold W. Jackson, M.P.S., 163 Dewsbury Road, Leeds, 11, of a son.

WALSHE.—On July 18, the wife of James C. Walshe, M.P.S.I., Arva, co. Cavan, of a son.

Marriages

CROSS—MASSON.—At St. Andrew's Church, Llanbryde, on July 13, David Waddell Cross, M.P.S., Elgin, to Mary C. Masson, Woodside, Elgin.

CROSSLEY—KAY.—At Christ Church, Woodford, on July 19, Norman I. S. Crossley, M.P.S., son of Mr. A. Crossley, M.P.S., 289 London Grove, Stockport, to Christine Kay.

EDWARDS—KNIGHT.—At Eccles Parish Church, Manchester, on July 22, Frederick W. Edwards, M.P.S., Eccles, to Amy Knight.

NEWING—GAMBLE.—At St. Edmund's Church, Hunstanton, recently, Frederick Beech Newing, M.P.S., to Norah Gamble.

WILLIAMS—JONES.—At Dolgelly Parish Church, recently, Edward Ronald Williams, M.P.S., to J. P. Jones.

Deaths

HORSBROUGH.—Recently, Mr. James Horsbrough, M.P.S., 11 Newlands Avenue, Norton-on-Tees, aged sixty.

KNIGHT.—On July 22, after a brief illness, Mr. William H. Knight, managing director of Proprietary Agencies, Ltd., 179-181 Acton Vale, London, W.3, aged sixty-eight. Mr. Knight joined the staff of Proprietary Agencies, Ltd., in 1914 as accountant, and was appointed managing director in 1923. He was also a director of Bayer Products, Ltd. Mr. Knight was an Associate of the Chartered Institute of Secretaries and a member of the Executive Committee of the Proprietary Association of Great Britain. Over thirty years' association with the proprietary medicine business here and in the United States had earned for Mr. Knight the esteem of all who had business relations with him.

MELBOURN.—Recently, Mr. Newell Evens Melbourn, M.P.S., 2 College Crescent, South Hampstead, London, N.W.3. Mr. Melbourn qualified in 1901.

MURRAY.—Recently, Mr. Thomas Ninian Murray, M.P.S., 257 Coldharbour Lane, London, S.W.7. Mr. Murray qualified in 1904.

ROBINSON.—On July 19, Mr. Joseph Robinson, M.P.S., 72 Anstey Road, Wyken, Coventry, aged seventy-one. Mr. Robinson was for some time chairman of the Coventry Branch of the National Pharmaceutical Union and of the local Pharmaceutical Committee.

SMITH.—Recently, Mr. Thomas Ashworth Smith, M.P.S., 17 Blackburn Street, Radcliffe, Lancashire, aged sixty-nine.

WOLSTENHOLME.—Recently, Mr. Austin Whitley Wolstenholme, M.P.S., 41 Ronald Hill Grove, Leigh-on-Sea. Mr. Wolstenholme qualified in 1894.

Personalities

We learn with regret that Mr. J. P. Gilmour, editor of "The Pharmaceutical Journal" from 1916 to 1933, is seriously ill at his residence in North London.

MR. GERARD ROBERT HILL, C.B., has been appointed chairman of the Statutory Committee of the Pharmaceutical Society in succession to Sir Ernley Blackwell, K.C.B.

MR. HAROLD DAVIS, Ph.C., B.Sc., A.I.C., chief pharmacist, University College Hospital, has been awarded the degree of Doctor of Philosophy in the University of London.

MR. C. E. REYNOLDS, M.P.S., was among the selected players of the Nottinghamshire freemasons in the bowling matches against the Leicestershire, Lincolnshire and Derbyshire masons.

MR. W. H. LINNELL, Ph.D., F.I.C., Ph.C., University Reader in Pharmaceutical Chemistry at the College of the Pharmaceutical Society, has received the D.Sc. degree of the University of London.

MR. R. N. ROBSON, son of Mr. W. F. Robson, who represents C. J. Hewlett & Son, Ltd., manufacturing chemists, London, E.C.2, in the North of England, has passed the second professional examination of the Royal College of Surgeons of Edinburgh.

MR. M. L. DANIELS, managing director of the United Drug Co., Ltd., Nottingham, has just returned from a visit to Canada and the United States. Mr. Daniels gave several addresses in furtherance of Anglo-American relationship during his visit, including a talk to 350 members of the Philadelphia Rotary Club.

MR. JAMES PATERSON, newly-elected vice-president of the Photographic Dealers' Association and president of the South-Eastern (London) Association (which includes the South-East London Chemists' Association and the South-East London Branches of the Pharmaceutical Society, National Pharmaceutical Union and Photographic Dealers' Association), is an Aberdonian by birth. He was senior assistant to Dyson & Co., chemists, South Kensington, for eight years before acquiring his present business at 22 Woolwich Common, S.E.18, in October 1927. It was not long before he was made a member of the council of the South-Eastern Association, and he was subsequently for four years its vice-president. He is now serving his second year as president. He was elected to the P.D.A. National Council in 1933, and was its treasurer for three years (1936-38).



MR. JAMES PATERSON

Recent Wills

MR. CHARLES PERCIVAL MAW, Benthall, Merstham, chartered accountant, a director of Johnson & Sons, Manufacturing Chemists, Ltd., who died on April 28, left £24,535, with net personalty £21,932.

MR. GEORGE WILLIAM HARRISON, 17 Harley Street, Hull, joint managing director of Lofthouse & Saltmer, Ltd., manufacturing chemists, who died on May 17, left £12,888, with net personalty £12,475.

MR. RICHARD AUGUSTUS CRIPPS, Ph.C., F.I.C., 11 Osmond Gardens, Hove, founder of R. A. Cripps & Son, Ltd., chemists, who died on March 31, left property of the gross value of £8,963, with net personalty £3,885.

MR. THEOPHILE JEAN BAPTISTE DESNOS, The Beeches, Kingston Hill, Kingston, governing director of Robert Ferber, Ltd., manufacturing chemists, London, S.E.15, who died on April 30, left estate of the gross value of £22,255, with net personalty £12,726.



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THE CHEMIST AND DRUGGIST

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Conference Business Discussions

THE branch representatives' discussions at the Birmingham meeting of the British Pharmaceutical Conference, a report of which begins on p. 118, have been, as a whole, concise and businesslike. Some of the subjects raised were by no means new, but the fact that they were reintroduced is *prima-facie* evidence of continuing interest in them. It was stated during the proceedings that the average attendance at these discussions during recent years is 209 out of a possible 331—a statement raising the presumption that the views of pharmacists find better expression there than, for instance, in the annual elections to the Council of the Pharmaceutical Society. Limitations of space preclude comment on many of the resolutions brought forward. It happens that one of them has since become more topical through the publication, on July 26, of a letter from the Secretary of State for War to Sir Patrick Hannon, M.P., on the subject of the work of pharmacists in the army. A resolution passed at the Conference on July 18 declared that organised pharmacy should continue to press for commissioned rank for pharmacists in the Forces. Mr. Hore-Belisha claims that: "From the economic point of view the employment of pharmacists solely in dispensing duties in a military hospital would be difficult to justify. The amount of dispensing and preparation of drugs," he continues, "is rapidly diminishing owing to the fact that many much more potent drugs are now prepared synthetically by expert chemists which have replaced the less efficient preparations previously made up in dispensaries. The present contract price of drugs also renders it more economical to purchase them in the prepared state than to set up the necessary machinery and apparatus to prepare them ourselves." A motion in favour of restricting sales of British Pharmacopœia and British Pharmaceutical Codex preparations to pharmacists was lost, as also was a proposal to consider an unemployment and pension scheme. These were not the only resolutions to be defeated. We commend the study of these informative discussions to all our readers.

Sicilian Lemon Oil

THE first shipment quotations received last December for new crop Sicilian lemon oil, standard B.P. quality, ranged from 10s. to 10s. 9d. per lb. c.i.f., in coppers. During January shippers' prices moved up and down between the limits of 9s. 6d. and 10s. 6d. with the offers received during February continuing within these limits. Exporters eased their prices in March with figures of 8s. as the lowest, and 9s. the highest, reported. During April the lowest shipment offers this season were recorded at 7s. to 7s. 7½d. per lb., c.i.f. At these figures and at possibly as cheap as 6s. 9d. c.i.f., in at least one instance, a fair amount of business was recorded. By the end of May shippers were not sellers at 10s. 6d. per lb. c.i.f. Rather easier terms were announced during June with quotations moving up and down within the limits of 9s. 6d. up to 10s. 4½d. At the half-year there was a sudden hardening in the market with the lowest price cabled about 12s. and other offers were up to 12s. 9d. The primary market has since been maintained at about 12s. 4½d. up to 13s., according to shipper, and at these figures oil has been offered sparingly.

A pointer to the strength of the market has been the receipt of instructions from shippers, who had sent stocks over here on consignment, to the effect that sales were not to be made without first referring the matter of price to them. The sale of all the Californian cold-pressed oil available in London at about 9s. 1½d. per lb. afforded some relief to the position, and it is noted that this product is gradually gaining in popularity, both on account of its competitive price and quality. There are many who hold the opinion that the maximum prices at which Sicilian oil, Sfumatrice quality, will secure a normal sale in this market are about 9s. to 10s. per lb., delivered.

According to figures obtained from a reliable source in Sicily the total shipments in 1937 and 1938 exceeded the amount of oil of all qualities produced in those years quite appreciably. This is confirmed by the decline in the carry-overs which stood at 178,645 kilog. at December 1, 1936, 98,058 kilog. on December 1, 1937, and only 56,000 kilog. on December 1, 1938. Shipments to all destinations are reported to have been well up to the figures of the past two years during December–March, and that in April exports totalled approximately 67,000 kilog., against 36,000 kilog. in the corresponding month of 1938. During 1937 and 1938 exports amounted, on average, to 304,000 kilog. a year, while production of oil of all qualities was 221,260 kilog. in 1937 and 267,000 in 1938. It is too early yet to estimate the total oil production this season as the Verdelli oil has yet to be produced and this summer crop is always an uncertain factor. It has varied between 16,000 kilog. and 30,000 kilog. in recent years. At the end of May stocks were estimated at 75/80 thousand kilog. and if an average Verdelli production of, say, 23,000 kilog. is added, the total quantity of oil available for export from June to December this year would be somewhere in the region of 100,000 kilog. The source reports exports during June were well up to average, particularly to America, but give no figures. Shipments during July have possibly been rather limited owing to the high prices which have ruled, but it does appear that the stocks on hand at the source are by now so comparatively small as to justify the present strong attitude adopted by shippers, but current prices will probably result in a marked contraction of shipment sales, at least to this market.

British Pharmaceutical Conference 1939

Proceedings

(Concluded from THE CHEMIST AND DRUGGIST, July 22, p. 104)

Science Session

Thursday Morning, July 20

THE Science Session was resumed at five minutes past ten on Thursday morning, July 20. Nearly seventy members were present. Mr. J. Rutherford Hill, who was in the chair, called upon Mr. H. A. Caulkin, B.Sc., F.I.C., to read the next paper on the list:—

Assay of Lobelia and its Preparations

By H. A. CAULKIN

[ABSTRACT]

THE question of the alkaloidal content of lobelia has recently assumed some importance. As there is no official method for the assay of lobelia and its preparations, it may be difficult to obtain agreement between various workers as to what is the alkaloidal strength of any given sample. It has been found that there is an almost constant proportion between the weight of the material isolated in the alkaloidal assay and the amount of alkaloid obtained by titration, and the use of Farr and Wright's method does ensure some sort of uniformity in the products on which it is used.

Several methods of assay have been investigated, and the following, which is on similar lines to that suggested by Markwell, was found to give satisfactory results, and could be carried out rapidly.

Ten gm. of the powdered drug was mixed with 50 mls of ether-alcohol (4:1) and shaken for a few minutes, 2 mls of dilute solution of ammonia was added, the mixture shaken, allowed to stand for half an hour and percolation with the ether-alcohol mixture continued until the alkaloids were completely extracted. The percolate was transferred to a separator and shaken with successive quantities of 2 per cent. sulphuric acid until the washings ceased to give any precipitate with Mayer's reagent. The mixed acid liquid was washed with 15 mls of ether and the ether washed with 10 mls of *N*/10 sulphuric acid which was added to the first acid liquid. This liquid was made alkaline with dilute solution of ammonia and extracted with chloroform until all the alkaloids were removed, each quantity of chloroform being washed with the same 5 mls of water. The chloroform was distilled off until the volume was reduced to about 2 mls, 5 mls of absolute alcohol was added and the mixture evaporated to dryness at a low temperature. Two further quantities of absolute alcohol were added, followed by evaporation to dryness, and the residue was finally dried at 80° C. The alkaloids were obtained as an almost colourless varnish-like residue. To the residue was added 10 mls of *N*/50 sulphuric acid and the mixture was allowed to stand for several hours in order to ensure complete solution of the alkaloids. The excess acid was titrated with *N*/50 sodium hydroxide, using methyl red or cochineal as indicator. The number of mls of *N*/50 acid required to neutralise the alkaloids, multiplied by 0.00674 gives the weight of alkaloid, calculated as lobeline, in the quantity of drug taken.

The results obtained were: A, 0.148 per cent.; B, 0.357, 0.360 per cent. These are considerably lower than those obtained by the modified silico-tungstic acid process. Two explanations are possible: (a) The solution of the alkaloid in the titration method is incomplete or (b) some non-alkaloidal matter is precipitated by silico-tungstic acid. After carrying out a titration in which *N*/50 hydrochloric acid was used instead of sulphuric acid, the small insoluble residue was dissolved in ether, 10 mls of *N*/2 hydrochloric acid was added and the ether evaporated off. This acid was filtered and added to the titration liquid and the process repeated. The alkaloids were precipitated with silico-tungstic acid as previously described.

The results obtained were—by titration, 0.357 per cent.; by precipitation, 0.386 per cent. The agreement was now much closer and it is evident from this result that some non-alkaloidal matter is precipitated along with the alkaloidal silico-tungstate. Results obtained on samples of the tinctures confirmed this view.

DISCUSSION

MR. NORMAN EVERS said he had recently been engaged on work on lobelia for the Pharmacopœia Commission and for the Society of Public Analysts. His experience had been that with the exception of Markwell's method all might be considered unsatisfactory from one point of view or another. Markwell's method, with slight modification, had therefore been adopted by the Society. He was particularly interested in the finding that drying without alcohol caused a loss of alkaloid, and he had found that by adding acid before the chloroform was completely evaporated there was no loss.

DR. C. H. HAMPSHIRE supported Mr. Evers, and stated that the method of the Society of Public Analysts had been tentatively adopted for the B.P. Mr. Caulkin's work was largely confirmatory. The published method was rather more elaborate, as complete extraction had been attempted.

THE CHAIRMAN said his own experience had been almost exclusively in connexion with asthma powders, which were now outside the scope of the Pharmacy and Poisons Act, 1933.

The next paper, read by Dr. F. Wokes, was on:—

Chemical Assay of Ergot Powder

By C. DAGLISH and F. WOKES

[ABSTRACT]

THE B.P. colorimetric method of assay for ergot alkaloids is not a measure of physiologically active alkaloids or of total alkaloids (as it includes derivatives such as ergine). Estimates of the experimental error ranges from 2 to 10 per cent., most of which is due to difficulties in matching the colours in the Klett type colorimeter usually employed. Increasing the readings from two to eight reduces the error to between 2.2 and 3.3 per cent., taking the average of the eight readings. Investigation of depth of colour matched showed that 15 to 20 mm. depths gave most accurate results. The deviation of 20 per cent. in depth of solution matched permissible in the B.P. 1932 assay may introduce an error as high as 5 per cent. This is reduced to 2 per cent. with 10 per cent. difference in colour intensity and 1 per cent. if this does not exceed 5 per cent. Inequality of illumination may result in an error as high as 4 to 5 per cent., reducible to 2 per cent. under favourable conditions. Impure blue colours may cause appreciable error, which may be overcome by the use of yellow and red glasses in colour matching or obviated by removing as much fat as possible from the ergot prior to assay.

The six samples of ergot used in the investigation showed a variation in physiological activity of several hundred per cent., as might be expected from chemical assays of alkaloidal content (see Table I) which did not differ in the individual sample by more than 3 per cent.

B.P. Method.—On investigation the factors affecting the accuracy of the assay of powdered ergot by the B.P. 1932 process it was found that hand shaking at intervals during half an hour with alkaline ether gave in two assays (sample A) 0.183 and 0.181 per cent. of total alkaloids calculated as ergot-oxine. With vigorous handshaking this was increased to 0.213 per cent. and by mechanical shaking to 0.250 per cent. Sample A in assay continued to exhaustion gave 0.333 per cent. on using a penetrative (acetone/ammonia) menstrum as described later. The drug menstrum ratio was also found to affect completeness of extraction. Sample B gave a much higher result (0.33 per cent.) by taking only one-third of the Pharmacopœial amount of ergot with other quantities unchanged, this comparing with 0.28 per cent. on full amount with mechanical shaking.

Hampshire and Page Method.—Results of assays on sample A showed that five hours does not suffice for complete extraction of alkaloids and that the addition of extra ammonia assists extraction. Assay of sample A (5 gm. with 1 mil strong ammonia solution) gave 0.200 per cent. in 5-hour extraction and a total of 0.256 per cent. on 20 hours' extraction (with 1 mil

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ammonia added during each 5-hour re-extraction period). Continuous extraction for 20 hours (adding 1 mil strong ammonia in ether every 5 hours) gave 0.284 per cent., and further acetone/ammonia extraction of the marc resulted in a total of 0.315 per cent. of total alkaloids calculated as ergotoxine base. It is suggested that destruction by heating accounts for a small but definite loss of alkaloid in this method of assay.

Acetone Extraction of Ergot.—Preliminary experiments showed a 100 per cent. recovery of ergotoxine from acetone/ether mixture in three extractions with 1 per cent. tartaric acid solution, provided the proportion of acetone did not exceed 33 per cent. The colour test was not effected if the acetone present was under 16 per cent., whereas the amount of acetone left after warming the aqueous tartaric acid solution did not exceed 2 per cent. The method of assay of powdered ergot is as follows—

Five gm. of sample is mechanically shaken with 49 mls of acetone and 1 mil of 10 per cent. ammonia solution for thirty minutes and the extract filtered through a No. 1 Whatman paper in a closed apparatus to avoid loss of acetone by evaporation. Forty mls of filtrate mixed with 80 mls of ether is then shaken with four successive amounts of 10 mls of aqueous 1 per cent. tartaric acid solution. Separation takes place readily without emulsification. The combined tartaric acid extracts are warmed to remove acetone and ether, cooled and made up to 50 mls with tartaric acid solution.

Assay of sample A gave 0.322 per cent. (as compared with 0.308 per cent. without ammonia, thus showing that the addition of ammonia to the acetone facilitates extraction of alkaloids). Repetition of the acetone-Ammonia assay on sample B gave a mean result of 0.306, or 93 per cent. of 0.331 per cent. given by B.P. method carried to exhaustion. Experiments showed that a second (half-hour) extraction or one hour's continuous extraction by acetone/ammonia suffices to take out all the alkaloids.

Comparative Assays.—The results of assays on the six samples by the various assay methods are summarised in Table I, the relative (percentage) efficiencies being given in Table II. The data relate to total alkaloids circulated as ergotoxine base and the percentages are general averages from at least two assays.

TABLE I
Summary of assays of powdered ergot

Sample	Hampshire and Page period of extraction		British Pharmacopœia 1932 (mechanical shaking) period of extraction		Acetone/ ammonia period of extraction		Highest result by any method
	5 hrs.	till exhausted (15-20 hrs.)	½ hr.	till exhausted (2 × half hr.)	½ hr.	till exhausted (1 hr.)	
A	0.232	0.315	0.253	0.333	0.322	—	0.333
B	0.257	0.315	0.278	0.331	0.306	0.329	0.331
C	0.189	0.229	0.243	—	0.284	0.302	0.302
D	0.097	0.114	0.087	0.115	0.101	0.116	0.116
E	0.197	0.231	0.194	—	0.204	0.227	0.231
F	0.203	0.230	0.197	0.237	0.217	0.233	0.237

TABLE II
Percentage efficiency of assay methods

Sample	Hampshire and Page		British Pharmacopœia, 1932		Acetone/ammonia	
	5 hrs.	till exhausted	½ hr.	till exhausted	½ hr.	till exhausted
A	70	94	76	100	96	—
B	78	95	84	100	92	99
C	63	76	80	—	94	100
D	83	98	74	99	87	100
E	85	100	84	—	88	98
F	87	98	84	100	93	100

It is concluded that incomplete extraction accounts for the low results given by the B.P. method and that of Hampshire and Page. The efficiency of the Hampshire and Page method is definitely higher with low potency ergot, but less efficient than the B.P. assay with high potency ergot, which explains

the discrepancies between statements of previous workers. The new acetone/ammonia method and the B.P. process both measure the total alkaloids completely when extraction is carried to exhaustion.

DISCUSSION

DR. HAMPSHIRE said this subject has become one of great importance since the discovery of water-soluble and water-insoluble alkaloids, and there was need for a method of assay in terms of both kinds of alkaloids. With reference to the accuracy of the colorimetric method, he said that he was in agreement with the results of the author. Referring to factors affecting the process introduced by the method of Hampshire and Page, he said that the five-hour period was not intended to be absolute, but complete extraction should be aimed at, and five hours was usually sufficient to effect this in his own tests. With regard to the use of additional ammonia, he said that this should not be required, as no loss of ammonia would materially affect the issue. Dr. Hampshire said that he had asked one of the Pharmacopœia Subcommittee to test the various methods, as clinicians have made a strong appeal for a satisfactory method of assay to be incorporated in the next edition of the B.P.

In reply, DR. WOKES thanked Dr. Hampshire for his careful observations on the paper, and said, regarding his comments on the differentiation of water-soluble and water-insoluble alkaloids, that the results in the paper referred to total alkaloids. In answering a point raised by Mr. Evers, who said that he was not in favour of measuring out an aliquot portion of volatile solvent in Dr. Wokes's method, he said that he did not think that volatilisation of the acetone was a source of error in the results.

The next paper taken, which was read by the author, who said it was virtually a continuation of one given 33 years ago when the Conference last met in Birmingham, was:—

Analyses of Drugs under the Adulteration Acts

By J. F. LIVERSEEGE

[ABSTRACT]

It is obvious that there are many possible causes for drugs being condemned as "adulterated." Among these causes may be cited the following:—Wilful addition of a foreign substance; substitution, wilful or accidental; presence of impurities; decomposition; excess strength; incorrect weight; carelessness in manufacture; variation in quality; misunderstanding of an order; false labels. There is therefore no reason for surprise that the percentage of adulteration of drugs is higher than that of foods, particularly as the number of different articles is much larger. In Birmingham in three years, 12.3 per cent. of the drugs bought from registered chemists were condemned, against 30.7 per cent. of those from unqualified dealers. The following table gives the percentages of "offences" in England and Wales and for Birmingham for six decades. Birmingham takes about 300 samples of drugs each year, a number exceeded by only one authority.

Period	Drug offences, per cent.		Drugs as per cent. of total samples	
	England and Wales	Birmingham	England and Wales	Birmingham
1878 ...	17.0	21.9	2.2	2.3
1888 ...	12.4	20.0	2.8	1.0
1898 ...	10.4	13.7	3.7	3.8
1908 ...	8.2	18.7	3.3	4.6
1918 ...	6.2	10.4	4.6	4.5
1928 ...	4.7	5.7	4.1	4.4
1938 ...	—	9.6	—	6.3

The Birmingham figures indicate that the percentages of offences are higher than those in England and Wales. The proportion of offences in the last decade was about one-quarter of the earlier ones. Last year, when a larger number of drug samples (354) was taken, it rose to 9.6 per cent. It seems that percentage of drugs found to be adulterated depends much more on the efficiency of administration than on the purity of the drugs sold.

The heading in the Annual Reports of the Ministry of Health "Adulterated, or below standard," raises the interesting

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question: what standard? The Act prescribes limits for spirits, butter and margarine, and empowers the Minister of Health to make "Food Regulations," but gives no authority to make regulations for drugs. It is very frequently overlooked that these are not "standards" of quality, but limits of inferiority. In the case of drugs, the B.P. is not mentioned in the Act but is a "presumptive standard," and the B.P.C. occupies a similar position. The omission of a drug from the B.P. does not necessarily mean that its use is obsolete. It has recently been claimed that, because the B.P. omitted iodine ointment, there was no standard for it. This defence was overruled. A superseded B.P. may still be a presumptive standard for drugs not included in a later issue.

To make the B.P. an absolute standard would be unsatisfactory. Time may show that a limit is too stringent, as that in the 1914 B.P. for sp. aether. nit. It may not be stringent enough, as when it was claimed that because samples of sodium phosphate, containing a notable amount of arsenic, passed the test of the current B.P. they must be genuine. Further, the method of preparation may be unsatisfactory. Also a Pharmacopoeial test may be out of date. In 1903 I condemned a sample of spirit of sal volatile because the determination of the carbon dioxide indicated the absence of about three-quarters of the proper amount of ammonium carbonate. The vendor challenged my certificate because the sample passed the rough test of the B.P. in force. It may be noted that High Court appeal cases have ruled that a certificate must state the standard used for comparison. Also the B.P. is not a standard for commercial qualities. The pharmacist is in rather a peculiar position. An article sold by him is often presumed to be a drug, and of Pharmacopoeial quality, much more than if it were sold by a druggist. If the commercial quality be sold, care should be taken that the purchaser be informed of the fact. Commercial borax, for example, containing a notable amount of arsenic, should be labelled as unsuitable for medicinal use.

The question of the authority of the B.P.C. has recently been raised in Birmingham. Eight samples sold as "formalin throat tablets" contained amounts of formaldehyde ranging from 4 to 21 mgm.; only three of them contained 9.7 mgm., the amount ordered by the Codex. It is reasonable to expect that a drug bought from different pharmacies should be of the same composition. When the synonym is contained in the B.P.C. the drug should be of the prescribed strength, unless the difference is declared by label.

The recent practice, however, of avoiding stamp duty by giving the composition of the medicine on the label, has enabled action to be taken under the Food and Drugs Act, if the composition does not agree with the label. A Birmingham sample illustrates this. An eye lotion was stated on the label to contain definite quantities of borax, boric acid, sodium salicylate and zinc sulphate. It contained about half the stated quantities. False claims have been made for vitamin contents. A sample of "cod-liver oil tablets" was practically free from vitamin A, yet claimed to be "250 times as rich in vitamins as the very best butter." Pharmacists should realise the risk of an action for "false label" when the composition of the article does not agree with the label. An important addition in the new Act is that an advertisement, as well as a label, is evidence as to the composition of a medicine. This should have a salutary influence on advertisements claiming, for instance, definite amounts of vitamins in drugs.

There has been a satisfactory improvement in the dispensing of prescriptions in England and Wales during the last twelve years. The average of the first four years (1926-29) was 19.8 per cent. condemned. In the second period, the proportion fell to 12.0 per cent., and in the last period to 4.5 per cent.

DISCUSSION

MR. E. W. MANN said how much Birmingham pharmacists appreciated the action of the city health authorities in consulting them in connexion with sales of such products as magnesia and ung. phenolis. In the latter instance the attention of pharmacists had been drawn to the risk of deterioration (to which reference had been made in a published paper), and a caution given that precautions should be taken against such deterioration. This procedure might well be followed by other local authorities.

MR. R. L. STEPHENS inquired the author's opinion as to

whether vitamin-concentration preparations should be classed as foods or as drugs. Benzoin or benzoic acid might be included in the formula as a preservative of drugs, but if the preparations were classed as foods the additions became adulterants. Many substances advertised to be rich in vitamins, such as butter and milk, were obviously foods. In what category would the author place cod-liver oil emulsion?

MR. NORMAN EVERS, as an old pupil and assistant of Mr. Liverseege, expressed his great pleasure that the latter had come out of his retirement to give this paper, and declared that in no analytical laboratory were results obtained with greater care or the pharmacist given a "squarer deal."

MR. H. BERRY commended the paper to lecturers in forensic pharmacy, and said it could with advantage be included in every student's curriculum.

MR. E. S. PECK said the paper should also be read by every practising pharmacist.

MR. J. S. F. GARD spoke of his own experiences of contamination due to containers, which included the presence of arsenic in mist. magnes. hydrox., and of lead being added to drugs from lead present in tissue paper.

THE CHAIRMAN deplored the limitation of appointment of public analysts to members of the Institute of Chemistry, and gave examples from his own experience of an analyst with pharmaceutical qualification being superior to one with purely chemical training. He also quoted with approval the suggestion of Dr. Tocher that all inspections to which pharmacists were liable should be under one authority and all in the hands of pharmacists.

In reply, MR. LIVERSEEGE said the "conundrum" about vitamins was tricky, but the preparation instanced he would count as a drug. Appointments of public analysts, he said, were in the hands of the Ministry of Health and were not restricted to members of the Institute of Chemistry.

In the absence of Mr. G. W. G. Smithers, who submitted the following paper, this paper was taken as read:—

Preparation of Tablet Triturates

By G. W. G. SMITHERS

[ABSTRACT]

IN preparing tablet triturates for use in hypodermic injections there are various factors which cause variation in output. Thus a variation of 13 per cent. or more may occur from the amount of alcohol added to a triturate consisting almost entirely of lactose. Tablet triturates containing a large proportion of active medicament (such as morphine sulphate) make problems as to output, appearance and solubility become of still greater importance.

Tablet triturates represent the only method of making tablets for injection open to practising pharmacists and call for care and cleanliness in preparation. Personal cleanliness requires well-washed hands with clean finger nails as well as clean overalls. The room in which triturates are prepared should be as free from dust as possible, and in the absence of air-conditioning a fine wire mesh over the window will prevent entry of dust in excess. A glass-surfaced bench is a useful asset and is readily made by placing a sheet of plate glass cut to size on the enamelled surface of the existing bench or on white American cloth covering the bench. Lysol or similar disinfectant in solution should be used liberally to wash the bench, shelves and floor, and any dusting should be preceded by sprinkling with disinfectant.

The tablet triturates should be made under a glass screen, all plates and spatulas being flamed before use. A thin but not too flexible steel spatula with 4-in. blade and overall length of 7½ in. is most suitable for handling. Bone spatulas (which cannot be flamed) may be wiped with alcohol. A glass mortar is also preferable, and in wiping out with alcohol it should be well drained to avoid errors in output. Plates of fifty for the usual small size and of 200 for larger scale working are quite ideal. Care should be taken to control temperature during drying in a water-jacketed gas-heated oven or, best of all, in an electrically-heated thermostat-controlled oven. Even spreading over as large an area as possible is necessary in drying large quantities of tablets. Attention is called to sterility of contents being impossible after opening bottles containing 100 tablets and the difficulty of ensuring sterility in taking from tubes without elaborate aseptic precautions.

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Experiments on plain lactose triturates showed that lactose provides a thoroughly satisfactory tablet provided the correct (minimum) quantity and correct (50 per cent.) strength alcohol is employed with drying at from 45° to 60° C. For 60 grains of lactose the amount of alcohol most suitable is 0.8 mil of 50 per cent. alcohol, this being slightly in excess of the minimum required. Higher proportions of alcohol result in harder and less soluble tablets.

A trial batch of tablets should be made in order to standardise the mould for the proportion of active medicament to inert ingredient and the volume of alcohol used, which should be as near the strict minimum as possible. The same formula should be employed for each batch of tablet triturates. In tablet triturates containing active ingredients the proportion of alcohol must be kept constant to obtain constant output.

Drying at 45° C. is recommended, as discoloration increases with higher temperatures (and higher proportions of alcohol). Batches made with a minimum of alcohol show an increase in output of 18 to 22 per cent. over those made with a maximum of alcohol. This is exemplified in Table I relating to tablet triturates of morphine sulphate gr. $\frac{1}{4}$.

TABLE I

	Vol. of alcohol (50 per cent.)	Output	Weight of 10	Temp. of drying ° C.	Number of inversions to dissolve	Average	Colour
Morph. sulph. 10 grains. Lactose 22 grains	0.2 mil	43	0.462 gm. = 7.13 grains	25	20, 15, 20, 34	22.25	Good white
				35	13, 12, 11, 11	11.75	Good white
				45	—	—	Good white
				60	12, 11, 10, 11	11.0	Good white
Morph. sulph. 10 grains. Lactose 22 grains	0.6 mil	36	0.550 gm. = 8.49 grains	25	40, 130, 63, 42	68.75	Pale ivory
				35	13, 16, 15, 14	14.50	Pale ivory
				45	—	—	Pale ivory
				60	14, 18, 15, 21	17	Pale ivory

The relative solubility of the tablets was determined by dropping one in a $\frac{1}{2}$ -in. test tube containing 10 mils of water and inverting the tube directly it reached the bottom, the number of inversions necessary for complete solution being noted as a measure of the solubility of the tablet triturate. The solubility data shows that morphine hydrochloride in tablet triturate form is much less soluble than morphine sulphate. In general the precautions to be taken apply to triturates containing small or large proportions of medicaments. Thus tablet triturates of ephedrine hydrochloride (gr. $\frac{1}{2}$) and of codeine phosphate are misshapen, discoloured and not readily soluble unless the proper strength alcohol and drying temperature are used.

The next two papers, read by Mr. H. Berry, were as follows:—

Disintegration of Tablets

By C. L. M. BROWN

[ABSTRACT]

IN this country the standardisation of tablets is left almost entirely to the discretion and good faith of the manufacturer. Tests for disintegration appear to vary considerably, but whatever test is used it should be one which is universally reproducible and one which gives results in accordance with practical requirements. The methods used for the testing of disintegration of tablets are of two main types: (1) those which test for mechanical resistance of the tablet against knocks and general handling, and (2) those which test for the speed at which the tablet will break up into its original granules when placed in a specified liquid at a specified temperature.

I have designed a simple apparatus with which it is possible to determine mechanical resistance and disintegration in absolute values. It consists of a balanced beam, at one end of which is a scale pan of sufficient capacity to carry about 5,000 gm. At the other end is a pivoted arm carrying a square of stainless steel, from the centre of which a rectangular hole has

been cut. This square of steel hangs vertically and passes through a rectangular hole in a second square, placed horizontally and supported entirely by the base of the balance. The support is so designed that the horizontal "table" can be immersed in any desired liquid. To test a tablet, the beam is depressed so that the rectangular hole is just below the level of the table; the tablet is then inserted so that it is half way through the rectangular hole and rests lightly against the under side of the table; weights are then added carefully to the scale pan until the tablet breaks. When the experiment is carried out in air at room temperature the result gives us a measure of the tablet's mechanical resistance; carried out immersed in water (or artificial digestion fluid) heated to 37° C. gives us a measure of the force required to disintegrate the tablet. The result obtained in air I have called the "dry breaking weight," and the result obtained when the tablet is immersed in a liquid, the "wet breaking weight."

A series of tablets obtained from different manufacturers were examined. The results were extremely variable and in order to obtain a common basis for comparison the average dry breaking weight was divided by the average wet breaking weight. The figure obtained I have termed the disintegration ratio. The disintegrants used were potato starch, gelonide, and magnesium peroxide. The only variant, therefore, in the three batches was the disintegrant.

The balance described is capable of giving results equally as accurate as, if not more accurate than, present methods. My conclusion is that, until the balance has been more widely used, it is not possible to give truly representative values for dry breaking weight, wet breaking weight, or disintegration ratio. To those wishing to use the balance, I put forward the following tentative suggestions:—

Dry breaking weight—not less than 500 gm.

Wet breaking weight—not more than 100 gm.

Disintegration ratio—not less than 30 gm.

Rate of Disintegration of Compressed Tablets

By H. BERRY

[ABSTRACT]

THE problem of disintegration is a very old one. Certain drugs such as bromides and hexamine should not be swallowed in pill or tablet form owing to the possibility of pain due to local formation of a strong solution in the stomach or intestines. Disintegration tests become important when the tablet has to be swallowed whole. The ideal tablet would appear to be the average aspirin tablet, most samples of which disintegrate in cold water within a few seconds. The many disintegration tests possess the disadvantage of an indefinite end point and it is claimed that the following method gives repeatable results with an even batch of tablets.

The apparatus (Figure 1) consists of a rectangular framework of stainless steel wire of a definite gauge, weighted at the bottom with a 20-gm. brass weight and a metal platform having a rectangular aperture of definite dimensions. The two ends of the platform are extended at right angles and then bent so as to be able to rest on the top of a 100-mil cylinder. The tablet under test is placed evenly over the aperture on the platform. The wire frame is placed diagonally over the tablet and through the aperture so that the weight exerts a pull on the tablet. The whole arrangement is lowered just below the surface of 100 mils of distilled water at 18° to 20° C. in a cylindrical measure. As the tablet softens, the wire cuts through it and ultimately the frame and weight drops.

The 20 gm. weight was chosen as not being heavy enough to cause "dry" fracture of the tablet during the softening process and overcomes any viscous drag holding up lighter weights. Many factors account for varying disintegration rates in tablets, including degree and speed of compression, size of die and particles. The type of hopper feed is important when much starch is used as a disintegrator with heavy crystals. It was found extremely difficult to produce tablets showing uniformity in rate of disintegration, the nearest being obtained by carefully feeding material from a spatula into the die of a Eureka hand machine. Table I gives the times of disintegration of tablets of aspirin in heavy crystals (100) with potato starch (15) and talc (2).

The most important contributory factors as regards disintegration of commercial tablets are the formula (particularly

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TABLE I

Compression	Time of disintegration. " = seconds
1	2.2", 2.6", 2.10", 2.3", 2.9", 3.0"
2	4.3", 4.3", 3.7", 3.0", 3.4", 3.0", 4.3", 3.4"
3	8.12", 8.0", 7.8", 8.3", 8.1"
4	9.8", 10.8", 9.0", 9.7", 9.4", 10.0"

the binding agent), which the maker can control, and the age of the tablet, which unfortunately for him is beyond his control. An examination of tablets supplied by various manufacturers disclosed the following outstanding features:

Aspirin tablets.—Disintegration rates of 9 to 16 seconds on many tablets of four different makes shows there is no difficulty in producing a tablet which disintegrates readily. **Compound aspirin tablets.**—Varied from 8 to 44.5 seconds in four types, with one series from 1 minute 9 seconds to over four minutes, which highest figure does not represent a bad tablet. **Barbitone tablets.**—One series of 0.5 gm. tablets disintegrated uniformly (1' 12" to 1' 52"), whilst another of gr. 5 tablets

was very variable (1' 15" to 6' 53"). **Soluble barbitone tablets.**—Six different series showed wide variation from 17 to 62 minutes, only one make disintegrating readily in 10 to 17 seconds. **Digitalis (gr. 1).**

—The rate of disintegration of six sets of tablets tested using narrow aperture platform was from 12' 50" to 42.5', and it would not seem that rapid disintegration can be expected with this tablet. **Soluble phenobarbitone tablets.**—One maker's tablets disintegrate rapidly (32" to 3' 3") compared with four others (7 to 33 minutes). **Phenobarbitone.**—One series (taking over three hours to disintegrate) must be regarded as unsatisfactory and the other four makes are very variable, extremes being in one

series (1' 4" to 1' 33") and in another (1' 21" to 14' 3"). **Calcium lactate tablets.**—The wide variation in seven series (1' 16" to 34' 35") is to be expected as tablet ages. One manufacturer directs powdering the tablet before taking. **Thyroid tablets (gr. 5).**—One series (17.5 to 48 seconds) was very satisfactory despite rapid disintegration might not be anticipated as in three other makes (23 to 70 minutes). **Dover's powder (gr. 5).**—Irregularity in five series (4½ minutes to 1¼ hours) could be expected owing to opium content. It is suggested that a minimum disintegration time of one hour is reasonable, as it would be unwise to set the standard too high in the absence of evidence as to actual behaviour in passing through the alimentary tract. (The work was done for the British Pharmacopœia Commission.)

DISCUSSION

The discussion on the two last papers was taken jointly.

Mr. E. W. MANN said that Mr. Brown seemed to have ignored the time factor in adding the weights in his tests. He thought it would be somewhat difficult for manufacturers to standardise the dimensions of tablets when they have been supplying tablets of a certain size to a customer for some time.

Mr. BERRY said he wished for more results than were given in Mr. Brown's paper concerning the wet breaking weights. He thought the dry breaking weights were of only of interest academically. He wished to explain that Mr. Brown had added the weights at even intervals when loading up, and he observed that a gradual addition of weights would produce different breaking results from the sudden addition of the total weight required to break the tablet. He said that the use of mag-

nesium peroxide as a disintegrator had no appreciable effect on the disintegration rate.

Mr. J. F. LIVERSEGE recalled that salol tablets, which were not referred to in the paper, had a very bad disintegration rate.

Mr. NUTTER SMITH, referring to the disintegration test, said it would not be satisfactory for tablets which had to be chewed, such as phenolphthalein tablets. He said he disliked the recommendation of preparing tablets by fusion, which method, he said, may be satisfactory for some substances but is quite unsatisfactory for others. He passed round for inspection some samples of aspirin which had been treated in this way, and were unsatisfactory for issue. He thought a good many tablets should be powdered before administration, particularly tablets of barbitone and strychnine. He disagreed with Mr. Berry's remark that aspirin tablets should be regarded as the ideal standard for disintegration; some brands, he recalled, disintegrated much too rapidly. He suggested the use of an electrical stirrer for Mr. Berry's apparatus to assist in the disintegration. He thought manufacturers should include directions regarding crushing the tablet before taking, and following them with water, much more frequently than was customary.

Mr. PENMAN asked for details of the measurement of the amount of compression used in making the tablets referred to in the papers.

Mr. W. C. PECK pointed out that the shearing force present in the tests with the apparatus was not present in the stomach. Referring to the question of uneven distribution of ingredients in tablets, he said that this might probably arise from a separation of the ingredients present in particles of different sizes due to constant vibration in the hopper of the tablet-machine. This difficulty would be overcome by the use of a machine fitted with a stirrer in the hopper. He thought that the factors affecting the disintegration rate were all associated with the powders before they reached the hoppers of the machine.

Mr. STEPHENS suggested that the breaking weights could be added gradually in the form of small lead shot which could be poured into a beaker.

Mr. BURLINSON thought that the lubricant used in the tablet may affect the disintegration rate, and suggested the use of stearic acid in place of starch.

Mr. A. J. JONES said that the die size and the weight of the tablet must be equated with the formula, and asked if the formula came first or the standard. He suggested that workers should proceed on formulation, then a standard could be set on this, and later manufacturers might improve on it.

Mr. BERRY, replying to Mr. Nutter Smith, said if a stirrer were added it would only complicate the apparatus unnecessarily, as his results showed that of the tablets examined at least one of each kind broke within two minutes. He agreed with Mr. Jones that satisfactory formulation of tablets is the first necessary consideration. The time factor of disintegration can follow this. In reply to Mr. Penman, he said that the standards in the papers for compression were arbitrary figures, and thought that the standards for disintegration should not be included for the B.P. Replying to Mr. Burlinson, he said that as a lubricant stearic acid does not appear to affect the disintegration rate of tablets.

The session was then adjourned to the afternoon.

Thursday Afternoon

THE CHAIRMAN called on Mrs. Denston (Rosemary Butterfield) to read the first paper to be taken in the afternoon session, at which about eighty-five were present. The subject of the paper was:—

Histology of Belladonna

By T. E. WALLIS and ROSEMARY BUTTERFIELD

[ABSTRACT]

A NEW and complete investigation is made of the morphology and histology of the flower of belladonna with a view of determining the diagnostic features of the flower as present in "Belladonna Pulverata, B.P.," which is prepared from leaves and flowering tops of *Atropa Belladonna*, Linn. The description of the gross morphology of the flower of belladonna is followed by histological investigations (illustrated by drawings)

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of the calyx, corolla, stamens, ovary and other components of the flower, including the fruit and its pedicel. It is concluded that the following tissues are most diagnostic of the flower, these being arranged in order of relative importance as a means of distinguishing flower tissues from leaf tissues.

1. The fibrous layer of the anther wall consists of cells with their long axes transversely directed with thickening in the form of a lignified spiral band on the longer walls of each cell. These are most characteristic in surface view when the thickenings give a beaded appearance to the walls. The cells are from 47 to 93 microns in length and 22 to 53 microns in breadth and height. Lignification is so slight that phloroglucin and hydrochloric acid do not materially assist in the identification of this tissue.

2. Pollen grains are very numerous and present in all stages of development, the majority being mature. The ripe grains are subspherical with slight flattening at the poles, equatorial diameter averaging 45 to 47 microns and polar diameter 40 to 43 microns. There are three pores extending in the form of slits almost from pole to pole.

3. Papillose cells form the inner and upper epidermis of the corolla. This is most marked in the epidermal cells of the corolla lobes, the outer wall being extended as a small papilla. The cells are polygonal and isodiametric, the surface dimensions ranging from 10 to 20 microns. A pink to purplish coloured sap is usually present, which is rapidly dispersed.

4. Pitted epidermal cells from the base of the corolla have highly refractive walls and in surface view are traversed by delicate branched and unbranched bars of thickening. The sub-rectangular cells are 43 to 103 microns in length, 20 to 39 microns in breadth and 55 to 65 microns in height.

5. Chloroplasts from the epidermis of the anther may be enclosed in the cell or in groups often associated with the fibrous layer (of the above).

DISCUSSION

MR. T. E. WALLIS said Mrs. Denston had been working in his research laboratory for the last two years and had consented to read the paper, taking particular pleasure in making the drawings. Anatomical drawings of floral structures were not common in the literature, but now that monographs on several drugs known in the literature as leaves included flowering tops, knowledge of the structure of the latter was becoming necessary. Determination of the presence and amounts of the floral structures might become valuable.

MR. G. E. TREASE inquired the percentage of flowers present in commercial belladonna leaves, whether the flowers contained alkaloid as in the leaves, whether they contained any fluorescent principle, and whether any use had been made of ultra-violet light in the investigation of the flowers. He suggested the yellow-flowered belladonna would be a suitable subject for further study.

DR. C. H. HAMPSHIRE asked for details of the specimens investigated. What were the sources, how had they been authenticated, and how many had been used?

MR. C. MELVILLE asked whether the work had been done on fresh drug or on commercial dry samples.

In reply, MRS. DENSTON said the percentage of flowers present in belladonna leaves varied considerably, according to the time of year at which they were collected. So far as was known to the authors, the alkaloidal content of the flowers was the same as in the leaves. Mrs. Denston had seen figures relating to this matter, but had no details at hand. No work had been done with ultra-violet light. The material used consisted of flowers and flowering tops from the Chelsea Physic Garden, 1938; from Mill Hill, 1937; from Long Melford, 1938; from Kew, 1938; and wild specimens from a beech wood in Buckinghamshire. Fresh, dry and pickled specimens had been examined.

THE CHAIRMAN took the opportunity of offering the congratulations of the Conference to Mr. T. E. Wallis upon his being awarded the Hanbury medal.

MR. GARTSIDE then read a paper on:—

Estimation of Arsanilic Acid in Tryparsamide

By C. A. MACDONALD and J. G. REYNOLDS

[ABSTRACT]

TRYPARSAMIDE is liable to contamination with arsanilic acid unless particular care is taken during manufacture. In the

method described in the 1936 Addendum to the B.P., 1932, the limit test is inadequate when the sample contains more than traces of this impurity. In the proposed test 0.5 gm. and 1.0 gm. are taken in separate test-tubes, dissolved in 6 mls of water and diazotized below 5° C. by adding 2.5 mls of sodium nitrite solution (4 per cent. w/v) and 5 mls of dilute hydrochloric acid B.P. On pouring the diazotised solution into 10 mls of alkaline β -naphthol solution, B.P., the colour develops to a maximum in a few minutes and remains unchanged for several hours. The red units are measured by matching in the 1 cm. cell of the Lovibond tintometer and the amount of arsanilic acid present read off from the graph obtained by plotting red units against mls of standard arsanilic acid (1 ml=0.1 mgm.). The use of two different weights is to afford a check on experimental accuracy.

Quantitative results are unobtainable when the amount of sodium nitrite is inadequate, this being a critical factor in the test. The 2.5 mls of 4 per cent. sodium nitrite solution suffices for small amounts of arsanilic acid. The most accurate results are obtained with range of 4.0 to 8.0 red units and as shown in Table I, a small error in colour judging seriously depreciates the accuracy of estimation when 0.1 or 0.2 gm. of tryparsamide are taken.

TABLE I

Arsanilic acid estimated by the proposed method

Weight of tryparsamide taken, gm. ...	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Red units.										
Sample A ...	2.4	3.7	4.9	6.1	7.4	8.4	9.5	10.2	10.7	11.2
Arsanilic acid, per cent. ...	0.055	0.059	0.058	0.059	0.059	0.057	0.056	0.054	0.050	0.048
Red units.										
Sample B ...	2.1	3.2	4.2	5.1	6.3	7.1	8.2	9.1	10.2	10.9
Arsanilic acid, per cent. ...	0.040	0.047	0.047	0.046	0.049	0.047	0.047	0.047	0.048	0.046
Red units.										
Sample C ...	1.6	2.4	3.3	4.4	5.2	6.2	6.9	7.3	7.5	8.8
Arsanilic acid, per cent. ...	0.020	0.029	0.033	0.039	0.038	0.040	0.039	0.036	0.033	0.037

In the pharmacopœial test the difference in weights of tryparsamide in the 0.5 gm. and 0.25 gm. tubes should denote that 1 gm. of tryparsamide contains less than 0.2 mgm. of arsanilic acid. Table II discloses the inadequacy of the test, which theoretically set a limit of 0.02 per cent., but does not condemn a sample containing more than 0.05 per cent. owing partly, if not wholly, to nitrite deficiency.

TABLE II

The inadequacy of the quantity of B.P. sodium nitrite for determining the percentage of arsanilic acid

Weight of tryparsamide taken, gm. ...	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
Red units using 1.5 mls of 1 per cent. sodium nitrite ...	1.3	1.3	1.4	1.5	1.6	1.9	2.3	2.6
Arsanilic acid, per cent. ...	0.045	0.023	0.017	0.014	0.012	0.012	0.013	0.012
Red units using 2.5 mls of 4 per cent. sodium nitrite ...	2.1	3.2	4.3	5.1	6.3	7.2	8.2	9.1
Arsanilic acid, per cent. ...	0.040	0.049	0.048	0.047	0.049	0.048	0.048	0.047

Lines 3 and 5 of Table II give the percentage of arsanilic acid using the two different amounts of nitrite, and it will be observed that the stronger solution of nitrite enables consistent results to be obtained, whereas the weaker solution shows an apparent decreasing amount of arsanilic acid as larger quantities of tryparsamide are examined. The fact that when the weaker solution of nitrite is used the percentage of arsanilic acid appears to decrease as the quantity of sample taken for test increases helps to explain why, in the limit test, the colour in 0.5 gm. tube is never greater than the 0.25 gm. tube.

Table III is self explanatory and shows an analysis of the colour obtained by treating two batches of tryparsamide, one of which contains 0.005 per cent. and the other 0.05 per cent.

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of arsanilic acid, as in the official test and by using excess of nitrite. In the case of batch 1 containing 0.005 per cent. of arsanilic acid, the sample passes the test whether 1 per cent. or 4 per cent. solution of nitrite is used. With batch 2, the sample appears to pass the test when 1 per cent. solution is used and

TABLE III
Analysis of colour using 1.5 per cent. and 4 per cent. sodium nitrite

	Batch 1				Batch 2			
Weight of tryptamine, gm. ...	0.25	0.5	0.25	0.5	0.25	0.5	0.25	0.5
Arsanilic acid solution B.P., mls ...	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0
Aqueous solution of sodium nitrite, mls	1.5 (1 per cent.)	1.5 (1 per cent.)	2.5 (4 per cent.)	2.5 (4 per cent.)	1.5 (1 per cent.)	1.5 (1 per cent.)	2.5 (4 per cent.)	2.5 (4 per cent.)
Water ...	4.0	4.0	3.0	3.0	4.0	4.0	4.0	4.0
Red units ...	0.9	0.7	2.1	1.8	1.6	1.2	4.7	6.5
Yellow units ...	0.5	0.4	24.0	6.0	0.7	0.6	18.0	6.0

upon analysis the red colour is less in the 0.5 gm. tube. Using the stronger solution of nitrite the red colour is greater in the 0.5 gm. tube. However, in neither sample, using the stronger nitrite, is it possible to compare the colour directly in the test tubes, as the yellow component is so great in the 0.25 gm. tube. Thus it is not possible by the pharmacopoeial test to determine whether or not the sample is very much over the prescribed limit. (From Evans' Biological Institute.)

There was no discussion.

The next paper, read by the author, was

Riboflavin in Liver Extract

By G. E. SHAW

[ABSTRACT]

RIBOFLAVIN possesses the characteristic action of vitamin B₂ as an essential component of the oxidation-reduction systems present in every living cell. It exhibits a yellowish-green fluorescence when exposed to filtered ultra-violet radiation or "black light," the intensity of which is proportional to the concentration of the grouping representative of riboflavin and its simpler derivatives. These compounds, which are insoluble in chloroform, are converted by exposure in N/2 sodium hydroxide solution to unfiltered ultra-violet radiation (or by sunlight) into lumiflavin in which is soluble in chloroform and has the same fluorescence as riboflavin. These properties are used to assay riboflavin in liver which presents no difficulty, whether fresh or frozen, as the simple boiled extract fluoresces both directly and after conversion to lumiflavin. Commercial liver extracts contain an interfering substance which is similar to, or identical with, "luminochrome," a degradation product produced by exposure of an acid solution of riboflavin to light. The following method of extraction was the most satisfactory of all for the determination of riboflavin in the liver extracts examined.

Method.—Transfer 1 mil of extract or dilution of extract containing a large amount of riboflavin to a 50-ml separating funnel. Add 1 mil of N/1 hydrochloric acid, mix, add 10 mls of acetone slowly with a continuous mixing. Add 10 mls of chloroform, shake and allow to separate. Run off the lower layer into a 100-ml separating funnel. Continue the acetone-chloroform treatment of the upper layer in exactly the same manner until the lower layer ceases to give a blue fluorescence when examined in "black light." Reserve the extracted upper layer. Extract the combined chloroform-containing lower layers with successive quantities of 5 mls of water until no more fluorescing material can be removed. Discard the extracted lower layer and combine the aqueous extracts, extracting with successive quantities of chloroform in order to remove any blue fluorescing material. Transfer the aqueous extract, freed from blue fluorescing material, to a suitable round-bottomed flask, add the reserved upper layer and remove acetone by heating in a vacuum to a temperature of 35° to 40° C. Add N/1 sodium hydroxide till just pink to phenolphthalein, which is used as an internal indicator, and make up to a volume of 30 mls. Transfer to a shallow evaporating dish, adding an equal volume of N/1 sodium hydroxide. Expose to unfiltered ultra-violet radiation for a suitable time. (An

S 500 Hanovia analytical lamp for ten minutes at a distance of 18 in. was found to be satisfactory.) Transfer the irradiated solution to a 200-ml separating funnel, add a 20 per cent. solution of citric acid until the mixture is faintly acid to phenolphthalein, and extract with 10-ml quantities of chloroform until no more green fluorescing material is removed. Bulk the chloroform extracts to a suitable volume and compare the fluorescence of 10 mls of this in a test tube with prepared lumiflavin standard tubes.

Preparation of Standard Tubes.—Prepare a series of 10 standard dilutions of riboflavin in water containing 1 mgm. per 100 mls in steps of 0.1 mgm. per 100 mls.

Take 1 mil of each of the standard riboflavin solutions, add 4 mls of water and 5 mls of N/1 sodium hydroxide and expose for ten minutes to unfiltered ultra-violet radiation. Make just acid to phenolphthalein and extract with chloroform. Make up the chloroform extracts to 20 mls. Take 10 mls of this and seal up in thin-walled test tubes of non-fluorescent glass, using tubes identical with those to be used for the comparisons of the test samples. If the 10 standard lumiflavin tubes are placed in a test-tube rack, which is inclined at an angle of about 30° under the ultra-violet lamp, the sample tube to be examined can be readily matched. The match can be confirmed by removing one standard tube and substituting for it the test sample, so that a correct gradation is seen in the series. It is advisable to adjust the final volume of chloroform solution so that the test fluorescence is equivalent to that of 0.5 mgm. per 100 mls of standard tube. The 1.0 mgm. per 100 mls standard has too intense, and the 0.1 mgm. per 100 mls standard too feeble, a fluorescence for accurate estimation.

Removal of acetone by vacuum is necessary as its presence during irradiation of the alkaline solution of riboflavin causes a pronounced loss in the case of highly purified (potent) extracts and drying down on a steam bath in the case of crude (oral) extracts results also in loss of lumiflavin. The object of converting to lumiflavin is to eliminate chloroform insoluble substances with brown, blue or white fluorescence, which make matching impossible. Vaseline has an intense blue-violet fluorescence and lubricated taps of separators must be thoroughly washed with light petroleum before use. Concentration of alkali at N/2 is important as insufficient alkali may lead to formation of blue luminochrome. Centrifugalisation is best for breaking the persistent emulsions which are sometimes encountered with irradiated liver extracts.

The values of physiologically active riboflavin in liver extracts shows a wide divergence which bears no relationship to concentration or potency in pernicious anaemia. Assays of riboflavin in liver extracts for oral use gave amounts as follows (in mgm. per 100 mls):—(1 and 2) 6 mgm.; (3) 5.5 mgm.; (4) 4.5 mgm.; (5 and 6) 2.5 mgm.; (7) 2 mgm.; and (8) 1.8 mgm.

TABLE I
Total Riboflavin Content of Parenteral Liver Extract

Brand	Riboflavin in mgm. per 100 mls
1	16
2	11
3	7.0
4	5.0
5	3.4
6	3.0
7	2.0
8	1.8
9	1.8
10	1.5
11	less than 0.1

With regard to the parenteral extracts in Table I, No. 1 is highly concentrated, 1 mil being probably equivalent to 100 gm. of liver. No. 4 is highly fractionated and 1 mil is derived from 50 gm. Nos. 7 and 8 are stated to be made according to the process of Dakin and West. Nos. 5 and 9 are the same make, the "whole of the therapeutically active principles of fresh liver" being claimed as present in No. 9 but not in No. 5. Both Nos. 6 and 11 are effective in tropical nutritional anaemia, whereas No. 7 is inactive in such treatment.

Evidence is reviewed in favour of riboflavin (alloxazine-adenine-dinucleotide) being utilised as a vitamin in a phosphorylated condition. The discussion as to whether such phosphorylated vitamin (which is soluble in benzyl alcohol) is present in commercial liver extracts requires further investigation. Preliminary experiments suggest that the riboflavin is insoluble in benzyl alcohol in polynucleotide form or when conjugated with protein. The vitamin in simple nucleotide form, or as a mononucleotide, is soluble. It would appear that boiling a plain aqueous extract of liver for thirty seconds at

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pH 5.6 suffices to break down the insoluble polynucleotides into simpler (soluble) nucleotides.

There was no discussion.

In view of the small time left for the remaining papers, a considerably abbreviated form of the next paper was read by the author. The subject was:—

Acacia Solution for Intravenous Injection

By H. GARTSIDE

[ABSTRACT]

SOLUTIONS of gum acacia (6 per cent.) in normal saline solution are now in common use for intravenous injection after severe hæmorrhage, but the preparation of stable solutions presents many difficulties. Some solutions are clear with a white

weeks' storage. Neutralisation beyond the optimum value results in discoloration, this being related to the excess of alkali added as *N/10* sodium hydroxide.

When tested physiologically (on rabbits and mice) the solutions were completely atoxic. If it is desired to add dextrose to the injection this should be done during dilution of the clear concentrated acacia and not to the primary autoclaving.

Table I indicates the suitability or otherwise of the various qualities of gum acacia. It is difficult to suggest a reason for the darkening and precipitation with bleached gums as no trace of sulphur compounds could be found, which contaminant might be present if sulphur dioxide had been used as a bleaching agent.

DISCUSSION

MR. STEPHENS asked if the author had tried the effect of a preliminary sterilisation in a sulphonation vessel or other vessel with stirring apparatus.

TABLE I

Sample	Description of gum acacia	Concentrated acacia saline before autoclaving	Concentrated acacia saline autoclaved 15 lb. 90 min.	Dilute acacia 6 per cent. in normal saline		Dilute acacia 6 per cent. in normal saline after 12 weeks' storage
				5 lb. 45 min.	10 lb. 30 min.	
1	Large white tears. First grade. Bleached.	Dissolved readily. Good white solution. Residue—nil.	Cloudy solution.* Dark colour. Difficult to filter.	Yellow. Cloudy.	Yellow. Cloudy.	Heavy deposit.
2	White tears—small, broken larger tears. Bleached.	Ditto	Ditto*	Ditto	Ditto	Ditto
3	B.P. sorts of good quality. Clear white tears.	Dissolved readily. Good white solution. Slight debris.	Clear and bright. Almost colourless.	Only slight colour with characteristic opalescence.		Clear, bright solution. No deposit.
4	B.P. sorts of good quality. Tears rather broken.	Ditto	Ditto	Ditto		Ditto
5	B.P. sorts. Tears clean but discoloured.	Ditto	Clear and bright. Tinge of yellow colour.	Good solution—yellow colour more pronounced clear.		Ditto
6	B.P. sorts. Broken tears discoloured. Poor quality.	Dissolved very slowly—yellowish, slightly "ropy." Pieces of bark and dirt.	Clear and bright. Yellow colour. Filtration very slow.	As sample 5.		Slight deposit.
7	B.P. pulv. from best selected tears.	Dissolved readily. Good white solution. Residue—nil.	Similar to 5.	Rather poor solution. Brown coloration. Clear.		Clear. Slight deposit.

* Solutions re-autoclaved before proceeding—these filtered readily but were dark in colour and still slightly cloudy.

characteristic appearance whilst others are dark and muddy. Preliminary investigation showed that bleached gums produce the dark solutions. Good quality natural gum in tears was therefore used in preparing the solutions. The initial method adopted was to dissolve the sodium chloride (187.5 gm.) in distilled water heated to boiling point and add the gum acacia (2,500 gm.) with constant stirring until dissolved, adjusting the final volume to 5,000 mls. The concentrated solution (which is approximately four times normal strength) is strained through fine muslin and the container (covered with parchment paper) is autoclaved at 15 lb. pressure for ninety minutes. Purified kieselguhr (200 gm.) is added to the autoclaved solution, which is then filtered through Buchner funnels, using coarse filter paper and good vacuum on the receiving flask. The autoclaving vessel is rinsed out with a small quantity of distilled water, the washings being filtered through the bed of kieselguhr. The clear filtrates are mixed and cooled and (after estimation of sodium chloride content) diluted to contain 0.9 per cent. of sodium chloride. The resultant solution filtered through ordinary 50 Whatman paper is distributed into suitable containers and autoclaved at 5 lb. pressure for forty-five minutes or at 10 lb. pressure for thirty minutes. The re-autoclaved solution may appear rather dark but becomes quite satisfactory when diluted to normal strength.

With suitable acacia the clarity and speed of filtration depends almost entirely upon the primary autoclaving and the *pH* value of the solution is about 4.4. Further experiments indicated that there is an optimum *pH* and also disclosed that a remarkable drop occurs with solutions of higher value than 7.0 to an approximately uniform value of 6.5, and results confirm that this approximates the optimum *pH* value.

The final method adopted was to adjust the concentrated solution to *pH* 7.0 to 7.2 (by testing electrometrically on the glass electrode). After autoclaving (at 15 lb. for ninety minutes) the method above is completed, the *pH* value of the processed solution falling to 6.6. The solutions are clear and of good colour and there was no deposit after twelve

MR. H. BERRY inquired if Mr. Gartside had approached the problem from a bacteriological point of view. In his view the amount of heat required by the British Pharmacopœia was grossly in excess of the amount really necessary. He also thought trouble would occur sooner or later with the B.P. solution, not only of the substance under discussion, but of dextrose, on account of the low *pH* figures prescribed. He asked the author's view whether autoclaving at 10-lb. pressure for a longer period would not be equally satisfactory as with the shorter period at 15-lb. pressure.

MR. GARTSIDE, replying, stated he had never tried using a stirrer during sterilisation, and his technician might object if called upon to devise apparatus for use on a manufacturing scale. Another point was that too high a proportion of acacia must not be put into one vessel or the operations would be seriously impeded by frothing. Sterilisation at 4.5-lb. or 5-lb. pressure would sterilise provided plenty of steam space were present in the apparatus. At *pH* 6.5 longer time was necessary (45 minutes). Trouble arose with moulds during filtration if the *pH* was not kept near this figure. He agreed with Mr. Berry that sterilisation could be effected at a lower pressure if the time were correspondingly increased.

THE CHAIRMAN then asked Mr. W. T. Wing to read the next paper:—

Easton's Syrup : Changes during Storage

By W. T. WING

[ABSTRACT]

THE development of colour in Easton's syrup, B.P., is regarded as due to oxidation of quinine by air in the presence of ferrous phosphate as a catalyst. The quinone first formed is oxidised to quitenine and quitenone which combine with the ferric iron (formed by slow oxidation of ferrous phosphate) to produce coloured compounds which are pink in the earlier stage and brown as the reaction proceeds to completion. Glycerin tends to prevent oxidation progressing beyond the pink stage,

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whereas sucrose also retards reaction rate but permits it to continue to the brown coloration. There is no development of colour in the absence of iron. Examination of the deposit from official syrups revealed the presence of amorphous ferric phosphate only, i.e., needles of acid quinine phosphate were absent.

Experiments showed that the extent of coloration and precipitation was determined by the amount of available oxygen and that such changes were hastened by rise of temperature (colour and deposit being marked in ten days at 37° C.). The effect of acids was investigated, and hydrochloric acid proved most satisfactory in preventing both coloration and precipitation. Hypophosphorous acid, frequently suggested for improving the keeping properties of Easton's syrup by reason of its reducing properties, retarded precipitation but resulted eventually in greater colour development. Organic acids (citric, lactic and tartaric) were unsatisfactory.

In the improved formula below, 5 per cent. of dilute hydrochloric acid replaces the equivalent of 0.45 per cent. of dilute phosphoric acid. Quinine hydrochloride is used because the quinine-hydrochloride-phosphate complex is more soluble than the corresponding quinine-sulphate-phosphate. Such an increase in the stability of the solution is indicated in view of the increased syrup content, made to retard oxidation and prevent the growth of moulds.

The formula for the syrup and its method of preparation is as follows:—

Iron	8.6 gm.
Phosphoric acid	35.0 mls
Strychnine hydrochloride	0.3 gm.
Quinine hydrochloride	13.3 gm.
Dilute hydrochloric acid	50.0 mls
Syrup	660.0 mls
Glycerin	140.0 mls
Distilled water	to 1,000.0 mls

Dilute the phosphoric acid with 70 mls of distilled water; add it to the iron in a flask of suitable size, and heat on a water bath until the iron is dissolved; add to this a solution of the strychnine hydrochloride and quinine hydrochloride in the 50 mls of dilute hydrochloric acid; filter it into the syrup and glycerin previously mixed and pass sufficient distilled water through the filter to produce the required volume.

The dilute hydrochloric acid content amounts to 3 minims in the maximum dose but only replaces an equivalent amount of phosphoric acid. (Published by permission of the medical officer of health, London County Council.)

DISCUSSION

DR. HAMPSHIRE said that the new formula suggested by the author seemed well worthy of trial. One of the committees of the Pharmacopœia Commission, he said, had been working on the production of a concentrated liquor for dilution in the pharmacy, and this work had led to a study of the keeping properties of the concentrated liquor rather than the diluted syrup. By modifying the B.P. formula for Easton's syrup, two liquors can be made (1-7) which will store satisfactorily, by omitting a little glycerin and adding a little hypophosphorous acid. The new monograph for the next B.P. allows for the preparation of two liquors for dilution.

MR. PENMAN suggested that the question of temperature may effect the change in colour. Further, he thought that

the colour may be due to the lævulose formed from inversion of the sucrose. A sample he had made, using liquid glucose in place of sucrose, had only changed slightly in colour after being kept in the light for two years. Another similar sample had been stored in the dark for the same period, and had shown almost no change in colour. He recommended the adoption of Mr. Wing's modification and substitution of the sucrose by liquid glucose.

In reply, MR. WING said that he recommended the use of hydrochloric acid for the alkaloidal solution in place of the hypophosphorous acid suggested by Dr. Hampshire.

The concluding paper, of which only the summary was read by Mr. A. J. Jones, was:—

Preservation of Paraldehyde

By J. S. TOAL

[ABSTRACT]

PARALDEHYDE stored under ideal conditions in 6-oz. amber glass-stoppered bottles shows progressive decomposition as evidenced by the formation of peroxidised compounds and acidity and fails to comply with official standards within two months. Though the decomposition is due to an oxidising reaction the development of acidity is inconsistent therewith and in general the peroxidation problem is baffling. Experience with commercial samples is anomalous. Of twelve samples examined in 1938, five failed to pass the Pharmacopœial tests and two which did so on receipt quickly deteriorated. The other five samples were satisfactory and remained so at the end of twelve months, and these on further examination gave indications of the presence of a preservative. The endeavour to detect and identify the presence of preservative has been so far only partially successful. At the moment the best positive indication is afforded by vigorously shaking 100 mls of the paraldehyde sample with 10 mls of N/1 caustic soda for three to four minutes in a separator. The yellow alkaline layer turns brown on standing overnight, and the paraldehyde turns golden brown. No trace of colour developed in either layer in the seven unstable samples. One sample responded to Carrobbio's test for resorcinol. The method of applying the test is as follows: Two mls of 0.1 per cent. solution of zinc sulphate and 4 drops of strong ammonia solution are shaken with 10 mls of paraldehyde in a test for about one minute. On standing for about half an hour the aqueous layer becomes deep blue if resorcinol is present, the sensitivity being 10 parts per million.

The results in Table I show that phenolic bodies undoubtedly exercise preservative effects when present in paraldehyde, the use of eugenol (as clove oil) being particularly interesting. It is important that the preservative be added immediately after distillation.

It is concluded that there can be no reason for prohibiting the use of phenolic preservatives. The presence of a reliable preservative would be beneficial and no objection could be taken to 0.03 per cent. of clove oil which is harmless and not detectable by odour or flavour.

(From the laboratories of Evans Sons Lescher & Webb, Ltd.)

There was no discussion, and THE CHAIRMAN declared the proceedings of the Science Session closed.

TABLE I
Paraldehyde with preservative

Preservative per cent.	After three months			After six months			After eight months		
	Peroxidised compounds mls N/10 sodium thiosulphate	Acidity mls N/10 sodium hydroxide	Aldehyde mls N/2 sodium hydroxide	Peroxidised compounds mls N/10 sodium thiosulphate	Acidity mls N/10 sodium hydroxide	Aldehyde mls N/2 sodium hydroxide	Peroxidised compounds mls N/10 sodium thiosulphate	Acidity mls N/10 sodium hydroxide	Aldehyde mls N/2 sodium hydroxide
Clove oil 0.03	0.2	0.1	negligible	0.2	0.15	negligible	0.3	0.15	negligible
Clove oil 0.2	0.2	0.1	"	0.2	0.15	"	0.2	0.15	"
Clove oil 1.0	0.2	0.1	"	0.2	0.15	"	0.2	0.15	"
Gallie ac. 0.005	0.1	0.1	"	0.1	0.1	"	0.1	0.1	"
Gallie ac. 0.0025	0.1	0.1	"	0.1	0.1	"	0.1	0.1	"
Catechol 0.005	0.1	0.1	"	0.1	0.1	"	0.1	0.1	"
Catechol 0.0025	0.1	0.1	"	0.1	0.1	"	0.3	0.1	"
Resorcinol 0.005	0.1	0.1	"	0.1	0.1	"	0.1	0.1	"
Resorcinol 0.0025	0.1	0.1	"	0.1	0.1	"	0.1	0.1	"
Potass. carb. 5.0	4.6	negligible	"	11.2	negligible	"	14.0	negligible	"
Calc. carb. 5.0	2.3	3.8	"	11.5	17.4	0.8	14.0	18.2	0.4

British Pharmaceutical Conference 1939

Closing Session

THE closing session of the Conference was held in the Great Hall of the University on Thursday afternoon, July 20. Mr. J. Rutherford Hill was in the chair.

THE CHAIRMAN called upon the secretary (Mr. C. E. Corfield) to read the annual report, and, in the absence of the treasurer (Mr. A. R. Melhuish) the financial statement.

ANNUAL REPORT

The following are the principal passages in the seventy-sixth annual report of the Executive.

The Conference consists at the present time of the members, honorary members and student-associates of the Pharmaceutical Society of Great Britain, together with the members of the Pharmaceutical Society of Northern Ireland and eighty-seven members at home and abroad who have been elected by the Executive. The number of members elected by the Executive is twenty-two less than in 1936, when their subscription was raised from 10s. 6d. to £1 1s.

The Executive report with deep regret the passing of Messrs. E. H. Farr, Uckfield, and D. Lloyd Howard, London, two of their oldest members. Mr. Farr was president of the Conference held in Chester in 1914 and, in collaboration with a former president of the Conference, contributed many practical modifications of official processes. Mr. Lloyd Howard was a past treasurer, and was chairman at Leicester, 1926, and Brighton, 1927. He will also be remembered for a generous donation to the funds of the Conference, enabling the Society to publish the last general index to the Year-Book of Pharmacy.

The eleventh volume of the "Quarterly Journal of Pharmacy and Pharmacology," published in four parts during the year, constitutes the Year-Book of Pharmacy for 1938. On the editorial committee the Executive have been represented by Messrs. R. R. Bennett, C. E. Corfield and F. W. Gamble.

The Conference Research List has been revised by a subcommittee of the Executive and is included for publication in this report. Subjects which in the opinion of the Executive have received sufficient attention for the present have been deleted, and among the new subjects added are problems relating to betanaphthol, histamine, isinglass, paraldehyde, sulphanilamide and tin oxides. The list now contains seventy subjects which offer problems for examination by members interested in research.

Twenty-three papers have been read and discussed at the science meetings. The Executive wish to thank the authors for their contributions, which have been the means of bringing before the Conference most useful and interesting investigations and conclusions.

The Harrison Memorial lectureship and medal for 1938, in memory of Colonel Edward Frank Harrison, has been awarded to Mr. A. D. Powell, who will deliver the lecture and receive the medal at the Society's evening meeting on December 12.

Names of members to form the Executive have been recommended by a subcommittee appointed by the present Executive, and a proposal will be made at this meeting that the following officers be appointed for the year 1939-40:—

Chairman: H. Humphreys Jones. *Vice-Presidents:* W. A. H. Naylor, J. F. Tocher, E. Saville Peck, D. Hooper, W. Kirkby and C. A. Hill. *Vice-Chairmen:* F. W. Gamble, R. R. Bennett, J. H. Franklin, H. Skinner, C. H. Hampshire, F. W. Crossley-Holland, H. Deane and J. Rutherford Hill. *Honorary Treasurer:* A. R. Melhuish. *Honorary General Secretaries:* C. E. Corfield and G. R. Boyes. *Other Members of Executive:* H. Berry, J. J. Blackie, G. J. W. Ferrey, A. J. Jones, J. Keall and T. E. Wallis, with H. M. Hirst, T. Marns and J. C. Young, nominated by the Council of the Pharmaceutical Society.

If the recommendations of the Executive are adopted, the above persons will be the officers of the Conference, together with the following *ex-officio*:—*President:* The president of the Pharmaceutical Society of Great Britain. *Other members of the Executive:* The president of the Pharmaceutical Society of Ireland, the president of the Pharmaceutical Society of Northern Ireland, the chairman of the North British Executive of the Pharmaceutical Society of Great Britain, the chairman of the local committee and the honorary local secretary.

The Executive wish to thank the Local Committee for making arrangements which have resulted in such a successful Conference. They feel sure that the members and their friends who have attended the Birmingham Conference will wish to express and record their appreciation, and they invite you to pass the following resolution, which will be moved at this meeting:—"That a hearty vote of thanks be accorded to the Birmingham Local Committee for their generous hospitality and for making the arrangements which have resulted in such an enjoyable and successful Conference." An invitation will be extended at this meeting by the Bath and District Branch to meet in Bath in 1940, and your Executive feel certain that the invitation will be received with great pleasure by all Conference members. Preliminary arrangements are being made for the Conference to meet in London in 1941, on the occasion of the celebration of the centenary of the Society, and invitations have been received from other branches of the Society for meetings in their areas in subsequent years.

TREASURER'S REPORT

The treasurer's report (read, as stated, by Mr. C. E. Corfield) was in the following terms:—"That accounts for 1938 show that the income from subscriptions paid by elected members was £91 7s., and in addition a composition fee of £25 was received under Rule 2 from the Pharmaceutical Society of Northern Ireland. These amounts have been credited to the account of the "Quarterly Journal of Pharmacy and Pharmacology." On the expenditure side, the general expenses of the Conference were £166 5s. 2d. These figures were included in the Pharmaceutical Society's financial statement presented at the Society's annual meeting in May. The total amount expended is £6 10s. 7d. more than last year. Apart from the figures to which reference has just been made, the Conference balance sheet shows on the assets side Consols to the nominal value of £1,250 and cash assets at the bank amounting to £213 4s. 2d. The usual presentation of books in connexion with the Bell and Hills funds was made to the Edinburgh and South-Eastern Scottish Branch of the Society in 1938. I am pleased to be able to report that there was at the bank at the end of 1938 a surplus over the previous year of £20 11s. 7d.

THE PRESIDENT (MR. WALTER DEACON) moved the adoption of the report and financial statement.

The motion was seconded by MR. T. E. WALLIS and carried unanimously.

The Conference endorsed the suggestion of THE CHAIRMAN that a message be sent to Mr. A. R. Melhuish (treasurer) hoping that he was enjoying his short rest and that he would soon be restored to health.

PLACE OF MEETING FOR 1940

MR. D. J. WILLIAMS, on behalf of the Bath and District Branch of the Pharmaceutical Society (and of the civic authorities of Bath), extended a cordial invitation to the Conference to meet in that ancient city in 1940. He said it was in Bath, in 1864, that the first British Pharmaceutical Conference was held. On two subsequent occasions the Conference had honoured Bath with its presence, the last being in 1924. Nothing, however, had gratified them more than the fact that they had been requested to repeat the prescription. In Bath they had a spa which was world-famous and which had a history of 2,000 years; hotels, famous assembly rooms, pump rooms, baths and everything necessary for the holding of a successful conference within easy reach of the centre. In their spare moments delegates would be able to wander along streets that were renowned throughout Europe, through wonderful squares, in the presence of magnificent buildings. In the evening they would see buildings, spires and steeples floodlit. To him it was a proud coincidence that, having been born in Birmingham, he was now able to offer them a welcome to the city of his adoption where he went over thirty years ago. To parody a famous saying, he came, he saw and he was conquered by the welcome of the good Somerset folk, and he

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was certain that when the Conference visited Bath the delegates would share his experience.

MR. HALLETT, supporting the invitation, pointed to the president as a happy example of smiling Somerset. Mr. Williams had spoken in commendation of Bath, and he (Mr. Hallett) wished to endorse all that Mr. Williams had said. It was not for them to claim that Bath was the most beautiful city in the kingdom. Perhaps, however, Mr. Rutherford Hill would forgive him if he recalled that some years ago the late Lord Rosebery, when visiting Bath, declared that Bath was even more beautiful than Edinburgh. (Laughter.) Bath was not a city which had been content with what it had inherited from the past. It had kept in the van of progress, and had provided all the amenities of a modern resort. It was still a garden city, full of the grace and beauty of the eighteenth century, set among the hills of smiling Somerset. Delegates would be able to dine and dance in the newly-restored assembly rooms, where the spirit of youth could be recaptured. At the Pump Room lovers of Dickens would remember that Mr. Pickwick drank the waters, which Sam Weller described as tasting like a warm flat iron. (Laughter.) Then there was the modern bathing establishment, which was really the finest in Europe, the venerable abbey close by, the lovely gardens and parks, and—what would be most alluring to the ladies—the shops. They would also hope to show the delegates the age-old gorge of Cheddar and the Cathedral of Wells. "Our first and foremost rule," Mr. Hallett concluded, "is that there shall be no stranger within our gates. If you come, I am convinced that once again you will feel that Bath is a home from home, and I feel sure that the Conference will be one of the most enjoyable in its history."

MR. H. SKINNER, in moving the acceptance of the invitation, mentioned that the present was the twenty-seventh consecutive Conference that he had attended. He recalled the Bath Conference of 1924 as one of the happiest of the series. From his knowledge of Bath, of the gentlemen who had invited them, and of the Bath branch, he was sure they would have a really good time.

MR. W. F. HAY having seconded the proposition, THE CHAIRMAN said some of them had very happy memories of the last visit to Bath and looked forward to a repetition of that experience. Bath was one of the most interesting cities in all Great Britain.

The motion was carried with enthusiasm.

ELECTION OF OFFICERS

MR. H. GARTSIDE proposed the election of the officers nominated in the annual report of the Executive Committee. Referring to Mr. H. Humphreys Jones, he said that in asking him to accept the chairmanship they were endeavouring to express their appreciation of his services at the many conferences which he had attended and to pharmacy in general.

MR. NUTTER SMITH seconded the motion, which was carried.

MR. H. HUMPHREYS JONES, in returning thanks, told the story of an examination candidate who was successful on his twentieth or twenty-first appearance, and of whom it was said that he had been rewarded not for merit but for good attendance. (Laughter.) He rather felt that that was his (the speaker's) qualification for the chairmanship. At the same time he deeply appreciated the honour bestowed upon him. They had had giants in the chair—Mr. Rutherford Hill, for example—and it would be appreciated how difficult it was to follow them at all adequately. He promised, however, that he would do his best.

PRESENTATION OF BOOKS

The chairman made the customary presentation of books from the Bell and Hills Fund to the Birmingham Branch.

MR. E. W. MANN, accepting the books on behalf of the Branch, said they would be a useful addition to a library, which he believed owed its foundation to a similar gift of books years ago.

THANKS TO LOCAL COMMITTEE

MR. W. C. TATE, president of the Pharmaceutical Society of Northern Ireland, proposed a hearty vote of thanks to the Local Committee for their hospitality and for making the

arrangements which had resulted in such an enjoyable and successful Conference. The arrangements, he said, had all gone with a swing and without the slightest suspicion of a hitch or technical breakdown. He singled out for special praise the transport facilities provided and said the success of the Conference was evidence of the team spirit and camaraderie of the Local Committee.

DR. C. H. HAMPSHIRE seconded the motion, which was carried with acclamation.

MR. E. W. MANN, who acknowledged the compliment, said the Local Committee had thoroughly enjoyed making preparations for the Conference, and were amply repaid if everyone attending went away with a pleasant memory of the visit.

THE CHAIRMAN THANKED

MR. T. GUTHRIE, expressing the thanks of the Conference to the chairman, spoke of Mr. Rutherford Hill's high qualifications for the duties.

MR. E. SAVILLE PECK, in seconding, said no Conference appeared complete to him unless Mr. Rutherford Hill was present. He understood that it was not less than fifty-five years ago that Mr. Rutherford Hill read his first paper before the Conference. He had therefore earned his chairmanship, not only by merit but by good attendance. They were now at the end of Mr. Rutherford Hill's second year of office, and were delighted to see him in such good health, vigour and mental alertness. He trusted that Mr. Rutherford Hill would long be spared to give them the benefit of his wide experience and the inspiration of his great personality. He looked upon Mr. Rutherford Hill as the grand old man of pharmacy.

The vote of thanks was heartily accorded.

MR. RUTHERFORD HILL, in reply, said he considered it the greatest honour of his life to have been invited to be chairman of the Conference, because he recognised its importance and great value to a profession of which he was proud. He would like to add that the local people had overwhelmed him with kindness and attention to everything that could contribute to his comfort and convenience. To them all he expressed his cordial thanks. He also placed on record his great indebtedness to Mr. Corfield and Mr. Boyes, the general secretaries.

This concluded the Conference proceedings.

Parliamentary News

PHARMACEUTICAL SERVICE IN THE FORCES

Sir J. Smedley Crooke asked the Secretary of State for Air on July 20 whether his attention had been drawn to the fact that no proper pharmaceutical service is provided in His Majesty's Air Force. Sir Kingsley Wood, in his reply, stated that the medical branch of the Royal Air Force includes an establishment of qualified dispensers, and members of the branch receive special training in dispensing along recognised lines. Quartermasters and warrant officers in the medical branch have to supervise dispensing, and accordingly only qualified dispensers are eligible for promotion to these ranks.

Mr. Thorne asked the Secretary of State for War whether he will consider setting up a committee, under the Director-General of Army Medical Services, with the object of organising an efficient pharmaceutical service for the Army and the Royal Air Force?

Mr. Hore-Belisha said both he and the Secretary of State for Air are satisfied that the dispensing requirements of the Army and the R.A.F. are adequately met by existing arrangements.

EXPERIMENTS ON DOGS

A Bill to prohibit experiments on dogs was recently introduced in the House of Commons by Mr. Groves (H.M. Stationery Office, 1d.). Under Section 1 it is stated that from the commencement of the Act no person shall perform or shall aid in performing any experiment on any dog with or without the use of anaesthetics, and no person or place shall be licensed or registered under the Cruelty to Animals Act for the purpose of performing such experiments. Under Section 2 it is stated that the expression "experiment" includes any inoculation or injection or infection or demonstration on a dog for any pathological, surgical, physiological or other purpose other than that necessary for restoring the health of the dog.

Trade Report

Where possible scales of prices of chemicals are given for bulk down to small quantities. Prices recorded for crude drugs, essential and fixed oils and coal tar products are for fair sized wholesale quantities. Qualities of chemicals, drugs, essential and fixed oils, etc., vary, and selected brands or grades would be at higher values

28 Essex Street, W.C.2, July 27

THE markets have experienced a distinctly quiet week of business and there is nothing to suggest any improvement in general demand this side of the holiday season now at hand. In most directions trade has been of a routine character, with orders usually for small quantities of goods. Despite this falling-off in business values are, on the whole, quite steady, and most of the alterations to record are to higher levels. Makers and dealers report quiet conditions in the PHARMACEUTICAL CHEMICALS markets; one of the few products selling in any quantity being ASPIRIN. Some outside material continues to discount Convention prices for VANILLIN. The scale of world sales prices for SANTONIN is now available and all sales will be made through a Stockholm company.

Crude Drugs

The period of steady trade in these commodities has been followed by a much quieter tone, but there is no weakness as regards values; many products are distinctly firm, due, mostly, to lack of supplies. Spot and forward prices for AGAR are maintained, but business has fallen off. Values now quoted for spot supplies of CURAÇAO ALOES show a further advance; very few shipment offers, also at higher rates. BUCHU is about steady on a slow market. Prices asked on spot for CHINESE CANTHARIDES continue to advance. With practically no interest shown shippers are maintaining their quotations for new crop CASCARA SAGRADA. Shipments this year of Norwegian COD-LIVER OIL have been heavy, the increase being due mostly to better sales of the veterinary quality oil. Famine prices are being quoted for any good Portuguese ERGOT on spot; the position should ease when new crop comes along next month. Limited trade in HYDRASTIS at full prices. Mincing Lane has had a very quiet week in MENTHOL. WHITE PEPPER is quoted at slightly better figures. Shipment prices for PYRETHRUM continue to advance. Chinese RHUBARB is very firm as quoted on spot and the selection remains small and mostly of rather indifferent quality. Shippers are keeping up their quotations for new crop SENECA although business is lacking. London prices for all descriptions of SENNA are very steady and tend rather dearer. Madras and Rajapore TURMERIC are firm as quoted and some business is reported.

Essential Oils

Conditions in these markets have been no exception to the quietness reported in other markets. A sharp division in the tone is noted, with some products idle and weak while others, also rather quiet, continue fully steady. Values for ANISE (STAR) on spot tend rather steadier; small trade reported. Practically no inquiry in the shipment market for Ceylon CITRONELLA. Australian EUCALYPTUS is again quoted dearer, spot and forward, and dealers are in no hurry to make sales from their stocks. HO (SHIU) seems to be unobtainable on spot. Shipment quotations for Sicilian LEMON are being maintained at high values. Editorial comment on p. 129. Shipment market for LEMONGRASS is idle. West Indian LIME is steadier. OLIVE is easier. High prices would be asked for any small lots of PALMAROSA that may be available here. Japanese PEPPERMINT has been unusually dull this week. PETITGRAIN is quoted dearer on spot and shipment offers have also advanced, pending the new crop in October. A fair trade in WORMSEED continues and values, spot and forward, are again quoted dearer.

Exchange Rates on London

The following is a list of the chief Continental and other exchange rates at the opening on Thursday morning:—

Centre	Quoted	Par	July 20	July 27
Amsterdam ...	Fls. to £	12·107	8·75	8·75
Berlin ...	Mks. to £	20·43	11·66	11·66
Brussels ...	Belgas to £	nominal	27·36	27·55
Copenhagen ...	Kr. to £	18·159	22·40	22·40
Lisbon ...	Esc. to £	110	110	110
Madrid ...	Ptas. to £	25·24½	nominal	nominal
Milan ...	Lire to £	92·46	89	89
Montreal ...	Dols. to £	4·86½	4·68½	4·68½
New York ...	Dols. to £	nominal	4·68½	4·68½
Oslo ...	Kr. to £	18·159	19·90	19·90
Paris ...	Fr. to £	124·21	176½	176½
Prague ...	Kr. to £	164·25	nominal	nominal
Stockholm ...	Kr. to £	18·150	19·40	19·40
Warsaw ...	Zloty to £	43·38	24½	24½
Zurich ...	Frs. to £	25·2115	20·76	20·75

Bank rate 2 per cent.

Pharmaceutical Chemicals, etc.

QUIET but steady markets are reported; the demand is less than that experienced during the past two months. The scale of prices for spot supplies of santonin is now available.

ACETANILIDE.—Business of small account: B.P. crystals and powder quoted at 1s. 7d. to 1s. 10½d. per lb., as to quantity.

AMIDOPYRINE.—Dull and competitive: crystals, two cwt., 9s. 4d.; one cwt., 9s. 8d.; less than one cwt., 10s. per lb., with powder 2½d. per lb. extra.

AMMONIUM ICHTHIOSULPHONATE.—Scale of prices steady: one cwt., 1s. 6½d., in 14-lb. tins; 1s. 8d., in 1-lb. tins; 1s. 10d., in 8-oz. tins; and 2s. 1d. per lb., in 4-oz. tins.

ASPIRIN.—Makers' scales of prices continue steady:—

In containers	1 lb.	2 lb.	4 lb.	7 lb.	14 lb.	28 lb.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1 lb. and under 4 lb. ...	3 3	3 1½	—	—	—	—
4 lb. and under 7 lb. ...	3 2	3 0½	3 0½	—	—	—
7 lb. and under 14 lb. ...	3 1	2 11½	2 11½	2 10½	—	—
14 lb. and under 28 lb. ...	3 0	2 10½	2 10½	2 9½	2 9½	—
28 lb. and under 1 cwt. ...	2 11	2 9½	2 9½	2 8½	2 8½	2 8
Not less than 1 cwt. ...	2 7½	2 6	2 5½	2 5½	2 5	2 4½
Not less than 5 cwt. ...	2 7	2 5½	2 5½	2 4½	2 4½	2 4
Not less than 10 cwt. ...	2 6	2 4½	2 4½	2 3½	2 3½	2 3

The quotations for aspirin, powder and tablets, are subject to the following conditions:—Buyer not to resell any quantity at prices or terms below the scale for such quantity current at the time the resale is made, and, if he converts the aspirin into tablets, not to sell any quantity of tablets at prices or terms below the scale for such quantity at the time he sells the tablets.

BORIC ACID (B.P.).—Makers' prices continue steady: granulated, £36 10s.; crystals, £37 10s.; powder, £38 10s.; extra fine powder, £40 10s. per ton, in 1-cwt. bags, carriage paid to buyer's works on 1-ton minimum. Commercial quality, £8 per ton cheaper for all descriptions.

BROMIDES.—Makers' scales of prices steady: POTASSIUM, B.P., five cwt., 1s. 8d.; one cwt., 1s. 9d.; 28 lb., 2s. per lb. SODIUM, B.P., five cwt., 1s. 10d.; one cwt., 1s. 11d.; 28 lb., 2s. 2d. per lb. AMMONIUM, B.P., five cwt., 1s. 11d.; one cwt., 1s. 12d.; 28 lb., 2s. 3d. per lb. net. Resale clause applies, 28-lb. parcels and one-cwt. cases free. Smaller quantities than 28 lb. at higher prices. Export quotations are maintained as follows: POTASSIUM, B.P., five cwt., 1s. 4d.; one cwt., 1s. 4½d. SODIUM, B.P., five cwt., 1s. 5d.; one cwt., 1s. 5½d. AMMONIUM, B.P., five cwt., 1s. 6d.; one cwt., 1s. 7d. per lb., f.o.b.

CHLORAL HYDRATE.—Makers' prices are unchanged: duty-paid crystals, in 14-lb. free containers, five cwt., 3s. 2d.; one cwt., 3s. 3d.; 28 lb., 3s. 4d. per lb.; 28-lb. jars one penny per lb. extra.

CITRIC ACID (B.P. CRYSTALS).—Market is steady: British material quoted at 1s. 0½d. per lb., less 5 per cent. discount, nominal and without engagement. Dealers' prices for imported material are competitive.

COCAINE.—British makers' prices for wholesale bulk quantities are quoted as follows: HYDROCHLORIDE and NITRATE, 25 oz. and over, 29s. 6d.; 16 oz. and less than 25 oz., 30s. 9d.; over 8 oz. and less than 16 oz., 31s. 9d. per oz. PURE CITRATE and SALICYLATE, 25 oz. and over, 32s. 6d.; 16 oz. and less than 25 oz., 33s. 6d.; over 8 oz. and less than 16 oz., 34s. 6d. per oz., 16-oz. packages free. Smaller packing extra. The scale of prices applicable to distributors of smaller quantities is as follows: HYDROCHLORIDE and NITRATE, 8 oz., 34s. 1d.; 4 oz. and less than 8 oz., 34s. 7d.; 2 oz. and less than 4 oz., 35s. 5d.; 1 oz. and less than 2 oz., 36s. 5d.; ½ oz. and less than 1 oz., 37s. 11d.; ¼ oz. and less than ½ oz., 40s. 11d. per oz. PURE CITRATE and SALICYLATE, 8 oz., 36s. 10d.; 4 oz. and less than 8 oz., 37s. 4d.; 2 oz. and less than 4 oz., 38s. 2d.; 1 oz. and less than 2 oz., 39s. 2d.; ½ oz. and less than 1 oz., 40s. 8d.; ¼ oz. and less than ½ oz., 43s. 8d. per oz., packages extra. Resale: Sales subject to buyers undertaking not to resell any quantity below the scale of prices for such quantity current at the time of resale. Export prices vary according to destination.

CREAM OF TARTAR.—Market is steady: British material, 99 to 100 per cent., 92s. per cwt., less 2½ per cent. discount. Dealers' prices for foreign material competitive.

CREOSOTE.—Quiet: bulk quantities, in 25-kilo demijohns, 1s. 6d.; small parcels, 1s. 7½d. up to 2s. per lb., ex store.

EPHEDRINE.—Business continues quiet: Hydrochloride, B.P., 4s. 9d. to 5s. per oz. for minimum 1,000-oz. lots; small quantities, up to 6s. 3d. Pure alkaloid is quoted from 6s. 6d. to 7s. 3d. per oz., as to quantity.

GALLIC ACID.—Steady, small trade: spot, one cwt., 3s.; 56 lb., 3s. 1d.; smaller parcels, up to 3s. 6d. per lb.

IODIDES.—Makers' prices for salts unchanged. POTASSIUM, B.P.—Not less than 1 cwt., 5s. 3d.; not less than 28 lb., 5s. 6d.; not less than 14 lb., 5s. 9d.; not less than 7 lb., 6s. 3d.; not less than 4 lb., 6s. 9d.; smaller quantities, 7s. 3d. per lb. SODIUM, B.P., not less than 7 lb., 7s. 4d.; not less than 4 lb., 8s.; smaller quantities, 8s. 10d. per lb. IODINE, B.P., RESUBLIMED.—Not less than 1 cwt., 5s. 9d.; not less than 28 lb., 6s.; not less than 14 lb., 6s. 3d.; not less than 7 lb., 6s. 9d.; not less than 4 lb., 7s. 5d.; smaller quantities, 8s. 2d. per lb. IODOFORM, B.P., CRYST., PRECIP. or POWDER.—Not less than 28 lb., 8s. 3d.; not less than 14 lb., 8s. 7d.; not less than 7 lb., 9s. 3d.; not less than 4 lb., 10s. 1d.; smaller quantities, 10s. 11d. per lb. Contracts for 1 cwt. and upwards (assorted if required), with fall clause for delivery as required during four months, 28-lb. tins and 1-cwt. cases free. All bottles are charged, but will be credited in full if returned carriage paid, in good condition, within three months. Carriage paid on any quantity. It is a condition of sale that buyers undertake not to resell any quantity of the above products at prices below the scale for any such quantity current at the time the sale is made.

LACTIC ACID (B.P.).—A limited inquiry reported: quantities, in carboys, 1s. 4d. to 1s. 5d.; in winchesters and bottles, 1s. 6d. to 1s. 10d. per lb., as to quantity.

MERCURIALS.—Makers' scales of prices continue unchanged.

	Less than 28 lb.	Not less than 28 lb.	Not less than 112 lb.
	per lb. s. d.	per lb. s. d.	per lb. s. d.
Ammoniated Lump B.P. (White Precip.)	6 10	6 6	6 5
Ammoniated Powder B.P.	7 0	6 8	6 7
Bichloride Lump B.P. (Corros. Sub.)	6 1	5 9	5 8
Bichloride Powder B.P.	5 9	5 5	5 4
Subchloride B.P. (Calomel)	6 10	6 6	6 5
Red Oxide Cryst. B.P.C. (Red Precip.)	7 11	7 7	7 6
Red Oxide Levig. B.P.C.	7 5	7 1	7 0
Yellow Oxide B.P.	7 3	6 11	6 10
Persulphate White	7 0	6 8	6 7
Sulphide Black (Hyd. Sulph. cum. Sulph. 50%)	6 11	6 7	6 6

Net prices. Strictly without engagement. On usual terms. Special prices for larger quantities and for contracts.

METHYL SALICYLATE.—Makers' prices steady: spot, ten cwt., 1s. 1½d.; five cwt., 1s. 2d.; one cwt., 1s. 2½d.; less than one cwt., 1s. 3d.; smaller quantities, in bottles, up to 2s. per lb.

METHYL SULPHONAL.—Demand slow: two cwt., 19s. 3½d.; one cwt., 19s. 9½d.; 56 lb., 20s. 2½d.; smaller parcels, 20s. 8d. per lb.

PHENACETIN.—Makers' prices unchanged: crystals or powder, bulk quantities, from 2s. 6d.; smaller parcels, 2s. 7d. up to 3s. per lb., as to quantity.

PHENAZONE.—Business remains slow: crystals, five cwt., 6s. 9½d.; two cwt., 7s.; one cwt., 7s. 3d.; and less, up to 7s. 6d. per lb., with powder 2½d. per lb. extra.

PHENOLPHTHALEIN.—Market is dull: two cwt., 2s. 9d.; one cwt., 2s. 10d.; 28 lb., 3s.; 14 lb., 3s. 1d.; 7 lb., 3s. 2d.; smaller parcels, up to 3s. 6d. per lb.

PHENYLETHYLBARBITURIC ACID.—Dealers' prices in 2-lb. bottles are steady at about 16s. to 17s. per lb., as to quantity.

PHOTOGRAPHIC CHEMICALS.—Home makers' prices are as follows: AMIDOL.—28 lb., 8s.; 14 lb., 8s. 9d. net; 7 lb., 9s. 6d., in free 7-lb. tins; under 7 lb., 12s. per lb., in free 1-lb. bottles, less 2½ per cent. monthly terms. CHLORQUINOL.—1-lb. bottles, 21s. per lb. GLYCIN.—7 lb., 10s. 6d.; 1-lb. bottles, 13s. 6d. per lb. HYDROQUINONE.—56 lb., 4s. 10½d.; 28 lb., 5s.; 14 lb., 5s. 3d.; 7 lb., 5s. 6d.; in 1-lb. bottles, 6s. 6d. per lb. METOL.—28 lb., 9s. 6d.; 14 lb., 9s. 9d. net; 7 lb., 10s. 6d., tins free; 3 lb., 12s., bottles free; 1-lb. bottles, 12s. 6d. per lb., bottles free, less 2½ per cent. monthly terms. ALUM (PHOTOGRAPHIC QUALITY).—1 cwt., 21s. per cwt.; 28 lb. for 6s. GOLD CHLORIDE.—15-grain tubes, 45s. per doz. MAGNESIUM POWDER.—10s. per lb. PARAMIDOPHENOL HYDROCHLOR.—8s. 6d. per lb., bottles free. POTASSIUM FERRICYANIDE.—14 lb., 2s. 2d.; 7 lb., 2s. 4d.; 1 lb., 2s. 6d. per lb. POTASSIUM METABISULPHITE.—One cwt., 8d.; 28 lb., 9d.; 14 lb., 10d.; 7 lb., 1s. per lb. PYROGALLIC ACID, CRYST.—One cwt., 7s. 9d.; 56 lb., 8s.; 28 lb., 8s. 3d. net; 14 lb., 9s. 9d.; less than 7 lb., 10s. 3d. per lb., less 2½ per cent. monthly account. Resale in small packages: 1-oz. bottles, 2s.; 4-oz., 5s. 3d.; 8-oz., 9s.; 16-oz. bottles, 16s. 1½d. each, less 33½ per cent. to the trade. RESUBLIMED.—1-oz. bottles, 2s. 6d.; 4-oz., 6s. 6d.; 8-oz., 11s. 3d.; 16-oz. bottles, 20s. 3d. each, less 33½ per cent. to the trade. SODIUM CARBONATE, RECRYST.—5 cwt., 12s. 6d. per cwt.; 1 cwt., 15s. 6d. per cwt.; 56 lb. for 11s. 6d.; 28 lb. for 6s. SODIUM HYPOSULPHITE, CUBES, CRYST.—5 cwt., 17s.; 1 cwt., 19s. 6d. per cwt.; 56 lb. for 11s. 6d.; 28 lb. for 6s. SODIUM SULPHIDE (PURE).—7 lb., 1s. 9d.; 1 lb., 2s. per lb., bottles and jars free. SODIUM SULPHITE, RECRYST.—One cwt., 21s. 6d. per cwt.; 56 lb. for 13s. 6d.; 28 lb. for 7s.

POTASSIUM PERMANGANATE (B.P.).—British makers' scale of prices for home trade is as follows: Not less than one cwt., 10½d.; not less than three cwt., 10d., in drums; not less than 5 cwt., 9½d. in 1-cwt. drums and 9½d. in 5-cwt. drums, net, delivered buyer's

station, drums free. Technical or commercial quality, one cwt., 96s.; three cwt., 91s. 6d.; five cwt., 89s.; one ton, 86s. 6d. per cwt., in 1-cwt. drums.

QUININE SALTS.—Convention prices continue steady: sulphate, 2s. 3d.; bisulphate, 2s. 3d.; ethyl carbonate, 2s. 11d.; salicylate, 2s. 11½d.; hydrochloride, 2s. 10d.; dihydrochloride, 3s. 1½d.; hydrobromide, 2s. 10d.; dihydrobromide, 3s. 1½d.; valerianate, 3s. 9½d.; phosphate, 3s. 5½d.; hydrophosphate, 4s. 1½d.; alkaloid, 3s. 1½d. per oz., 100-oz. tins free, carriage paid on bulk quantities.

SACCHARIN.—Convention price for 550 is 49s. 6d. per lb., duty paid, with rebates for quantities.

SALICYLIC ACID (B.P.).—Makers' prices unchanged: five cwt., 1s. 7d.; one cwt., 1s. 7½d.; 28 lb., 1s. 10d.; 14 lb., 1s. 11d.; 7 lb., 2s. 0½d.; 4 lb., 2s. 2½d. per lb.

SALOL.—Business of small account: spot, crystals, two cwt., 2s.; one cwt., 2s. 1d.; 56 lb., 2s. 2d.; smaller parcels, up to 2s. 6d. per lb.; powder, 2½d. per lb. extra.

SANTONIN.—A company has been formed in Stockholm for the purpose of effecting world sales and distribution of this product. The scale of sales prices is as follows: not less than 15 kilog. and over, 80 American dollars; not less than 10 kilog., 82 dollars; not less than 5 kilog., 85 dollars; and less than 5 kilog., 88 dollars per kilog. ex stock, Stockholm. Surcharges for small packages and for c.i.f. quotations.

SODIUM BENZOATE (B.P.).—Market continues steady: one cwt., 1s. 4d.; smaller parcels, 1s. 5d. up to 2s. per lb., as to quantity.

SODIUM DIETHYLBARBITURATE.—Scale of prices unchanged: spot, one cwt., 11s.; 28 lb., 11s. 3d.; 14 lb., 11s. 6d.; 7 lb., 11s. 9d.; smaller parcels, up to 12s. 3d. per lb.

SODIUM SALICYLATE (B.P.).—Makers' prices steady: home trade, crystals or powder, five cwt., 1s. 5½d.; one cwt., 1s. 6d.; 28 lb., 1s. 9d.; 14 lb., 1s. 10½d.; 7 lb., 1s. 11½d.; 1 lb., 2s. 4d. per lb.

THEOBROMINE.—The scale of prices for Continental material unchanged, as follows: pure, less than 56 lb., 8s. 8½d.; 56 lb., 8s. 6½d.; one cwt., 8s. 4½d. per lb. Soda sal., less than 56 lb., 6s. 10d.; 56 lb., 6s. 9d.; one cwt., 6s. 8d. per lb., delivered United Kingdom, duty paid. Cases and 5-lb. tins free. Smaller packing extra.

THYMOL.—Synthetic, fine white, one cwt., 6s.; 56 lb., 6s. 4d.; 28 lb., 6s. 9d.; less than 28 lb., 7s. 6d. per lb., tins extra; ex ajowan seed, one cwt., 8s. 5d.; 56 lb., 8s. 10½d.; 28 lb., 9s. 5d.; 14 lb., 10s. 6d. per lb.

VANILLIN.—Convention prices unchanged; ex clove oil or guaiacol, five cwt., 11s.; one cwt., 11s. 1½d.; 56 lb., 11s. 3d.; less, 11s. 6d. per lb. Some outside competition.

Crude Drugs, etc.

ACONITE ROOT.—Spot supplies of Napellus are quoted at about 100s. and Japanese at about 80s. per cwt., ex store.

AGAR.—Trade has been limited, with quotations for spot and shipment keeping steady: spot, Kobe No. 1, 5s. 1d. and upwards; Kobe No. 2, from 4s. 10d.; and Yokohama No. 1, 4s. 9½d. per lb., ex store, duty paid. Shipment, Kobe No. 1, 4s. 7d. to 4s. 8d.; No. 2, 4s. 5½d. to 4s. 6d.; and Yokohama No. 1, 4s. 5d. per lb., c.i.f.

ALOES.—At the further advance the market is firm and there are very few offers for shipment from the source: spot, black smooth capey, from 197s. 6d. up to 215s. per cwt. for fair livers; shipment, isolated offers from 192s. 6d. to 195s. per cwt., c.i.f. Cape, spot, in boxes, 47s. 6d.; shipment, 43s. per cwt., c.i.f.

ANTIMONY.—Quotations for Chinese have advanced sharply: Chine, crude, spot, £47; shipment, August-September, £44, c.i.f. English regulus, £71 per ton, ex store.

ARECA NUTS.—Exports from Ceylon for January-April, 1939, totalled 30,700 cwt., valued at Rupees 371,000, compared with 27,100 cwt., valued at Rupees 334,000, in the corresponding period of 1938.

BALSAMS.—Market remains quiet: Tolu, hard short, 1s. 9d.; Canada, spot, cheaper and steady at 2s. 11d.; shipment, 2s. 9½d.; Copaiba, 1s. 8d.; Peru, 3s. 7½d. per lb., spot.

BELLADONNA.—Small trade, root firm as quoted: leaves, 55s.; root, 72s. 6d. per cwt., spot.

BENZOIN.—Market is dull: Sumatra is quoted from 72s. 6d. to 90s. per cwt. Siam, medium almonds, £26; bean and pea, £22; pea size, £20 per cwt.

BUCHU.—Market dull and quoted unchanged: shipment is at 1s. 3½d. to 1s. 4d., c.i.f. On spot, new crop is held for 1s. 5d. to 1s. 6d. per lb., and old crop, yellowish, 1s. 2d., and some medium to good old leaves are limited at 1s. 3½d., ex store.

CAMPHOR.—Business rather quiet, values of Japanese rather unsteady: Japanese monopoly BB brand, £7 10s. per 100 lb.; Japanese natural, spot, tablets, 2s. 5½d.; powder, 2s. 2½d.; slabs, 2s. 2½d. per lb., ex store; shipment, tablets, 2s. 1d.; powder, 1s. 10½d.; slabs, 1s. 10d. per lb., c.i.f. English refined flowers, one cwt., 3s. 1d.; 28 lb., 3s. 2d.; small lots, 3s. 3d. per lb. Transparent tablets, 4 oz., 8 oz., and 16 oz., 3s. 4d.; 1 oz. and 2 oz., 3s. 5d.; ½ oz., ½ oz. and ¼ oz., 3s. 6d.

CANTHARIDES.—Chinese flies again quoted dearer: Russian, 4s. 3d. to 4s. 4½d.; Chinese, spot, 2s. 4½d. to 2s. 6d. per lb., as to quantity; shipment, no offers.

CASCARA SAGRADA.—Shipment quotations are being maintained, with little sign of much business being booked: quoted at about 40s. per cwt. for minimum car-load lots: spot, steady, with 1938 bark, 52s.; 1937 bark, 57s. 6d.; and 1936 bark, 65s. per cwt., ex store.

CASSIA FISTULA.—Dealers are quoting supplies to come forward at about 25s. per cwt., c.i.f.

CLOVES.—Values maintained, market quiet: Zanzibar, spot, 8½d.; shipment, July-August, 7½d. per lb., c.i.f. Madagascar, in bond, 7½d.; shipment, July-August, 6½d. per lb., c.i.f.

The landings of Zanzibar in London during the week ended July 22 were *nil*, and the deliveries 10, leaving a stock of 768. From January 1 to date the landings of Zanzibar have been 1,774, and the deliveries 1,286. Landings of Madagascar for the week ended July 22 were *nil*, and the deliveries *nil*, leaving a stock of 727. From January 1 to date the landings of Madagascar have been 1,231 and the deliveries 965.

COCONUT (DESICCATED).—Business modest, values about steady: spot, fine, 18s. 9d.; medium, 18s. 3d. per cwt.; shipment, halves, August-September, 17s. 3d. per cwt., c.i.f.

COD-LIVER OIL.—Bergen reports the recent improved tone is maintained although business in rather quiet: finest Lofoten steam refined non-freezing medicinal oil, about 75s. to 77s. per barrel, c.i.f., London. Small lots, on spot, about 124s. per barrel, ex store, duty paid. Norwegian exports to July 23: 45,444 barrels, compared with 27,768 barrels on the same date in 1938 and 35,680 barrels in 1937. British finest medicinal oil, 115s. per 25-gallon drum, delivered U.K., with rebates for 25 or more drums.

ERGOT.—Portuguese, spot, is now quoted in the region of 6s. per lb.; there are very few shipment offers; the last was up to 5s. 9d., c.i.f. Quotations for new crop are expected in two or three weeks, and lower figures are looked for. Polish, spot, 4s. 2d. to 4s. 3d. per lb.; no shipment offers.

GAMBOGE.—Quiet, steady: only a few cases of Siam pipe now available here, with minimum value £13 per cwt.

GENTIAN.—Spot values steady: Continental root at about 28s. 6d. to 30s. per cwt., ex store.

GINGER.—Still rather quiet but values are maintained: spot, about 18s.; shipment, for arrival, 14s. 3d. per cwt., c.i.f. Jamaican, spot, bold, in barrels, up to 65s.; medium bold, in bags, about 40s.; small grinding in bags about 32s. 6d. to 35s. per cwt., c.i.f.

GUM ACACIA.—Values about maintained but business is slack: Kordofan, cleaned sorts, spot, 45s.; shipment, 43s. per cwt., c.i.f.

HENBANE.—Dealers report demand quiet: small spot parcels are quoted from 60s. to 62s. 6d. per cwt., ex store.

HENNA.—Steady, small trade: new crop green leaves, at about 30s. to 33s.; brown, about 28s. per cwt., ex store.

HONEY.—Jamaican continues in short supply and is firm as quoted, business negligible: spot, Jamaican dark manufacturing, 32s. up to 42s. 6d. per cwt. for pale set. Canadian, about 42s. to 45s. per cwt. Californian, white clover, 47s. 6d., duty paid. Small lots of all descriptions at higher prices.

HYDRASTIS.—Values are fully maintained, some business reported: U.S.P. spot, about 13s. 6d. to 13s. 9d.; shipment, 13s. 3d. per lb., c.i.f. High test root, spot, 14s. 6d. per lb., ex store.

IPCACUANHA.—Rather quieter, but values are steadily maintained: Matto Grosso, B.P., spot, 7s. to 7s. 3d., as to test; shipment, from 6s. 6d. to 6s. 7½d. per lb., c.i.f. Carthagena, 5s. per lb., ex store. Matto Grosso, not quite up to B.P. standard, at about 6s. 4½d. per lb., ex store.

MENTHOL.—The Japanese product has had a very quiet week, with values, as quoted, about unchanged. Actually there has been practically no interest shown: K/S brands, spot, 12s. 3d.; shipment, August-September, 10s. 3d. to 10s. 4½d. per lb., c.i.f. Chinese, spot, 11s. 4½d.; shipment, July-August, 9s. 9d. per lb., c.i.f. French, duty paid, 10s. 6d.; shipment, 9s. 4d. per lb., c.i.f.

MERCURY.—Spanish-Italian metal continues steady: f.o.b. Continent, 76 dollars; c.i.f., London, £16 6s.; and ex store, London, £16 10s. per bottle.

OPIMUM.—Steady, business slow: Turkish, 13 per cent., 1s. 2d.; Bulgarian, 15 per cent., 1s. 2d. in original cases; Iranian, 12 per cent., 1s. 1d. per unit landed and duty paid.

ORANGE PEEL.—Quoted unchanged: bitter quarters are in short supply and held for 9d., and bitter ribbons for 8d. per lb., ex store.

ORRIS ROOT.—Some fair Florentine sorts are quoted on spot at about 35s. per cwt., ex store.

PEPPER.—Market is steady, business quiet. Terminal market quotations for white are better: Lampong, in bond, 2½d.; shipment, August-October, 1¾d.; October-December, 1¾d., c.i.f. Tellicherry, spot, 4d.; shipment, August-October, 3½s., c.i.f. Aleppy, spot, 3½d.; shipment, August-October, 3½s., c.i.f. White Muntok, in bond, 3d.; shipment, August-October, 3½d.; October-December, 3½d., c.i.f. London Terminal Market: Black, July, 2½d.; October, 2½d.; December, 2½d.; White, July, 3½d.; October, 3½d.; December, 3½d. per lb.

PIMENTO.—Steady, modest business: spot, 7½d. per lb.; shipment, August-September, 6½s. per cwt., c.i.f.

PYRETHRUM.—Firm, with supplies of Kenya short and quoted nominally: Japanese, £117 10s. to £122 10s. per ton, c.i.f. London; Kenya, £170 to £185 per ton, c.i.f. London, as to position.

QUASSIA CHIPS.—Values slightly easier and now steady: small spot parcels at about 20s. per cwt., ex store.

QUILLAI BARK.—Continues steady and in limited supply: spot, whole bark, about 38s., and crushed, fully 40s. per cwt., ex store.

RED POPPY FLOWERS.—New crop is available at about 2s. 5d. per lb., ex store.

RHUBARB.—Continues very firm as quoted, with no improvement in spot supplies: rough round fully 2s. 4d. and up to 2s. 6d. for best available. Shensi, small to medium, of poorish quality, 5s. 1½d. to 5s. 3d.; Shensi pickings, 4s. 3d. Canton pickings, a few cases only, 3s. 6d. per lb. No shipment offers.

RUBBER.—The quota for July-September 1939 has been fixed by the I.R.R.C. at 60 per cent., an increase of 5 per cent. The effect on the market has been a slight easing in quotations: standard ribbed smoked sheet, spot, 8½d.; August, 8½d.; September, 8½d.; October-December, 8½d.; January-March, 8½d. per lb.

SEEDS.—ANISE.—Spot, duty paid, Spanish, 8½s.; Bulgarian, 42s. 6d.; Russian, 41s. 6d.; Syrian quoted at 39s., c.i.f., for July-August shipment. CANARY.—Market quiet on spot and for shipment. Prices quoted, spot, duty paid are: Mazagan, 12s. 6d.; Morocco, 11s. 6d.; Turkish, 12s.; Plate, 11s.; Spanish, 33s. to 40s. CARAWAY.—Dutch, spot, 46s. 6d., duty paid, and 41s. 6d., f.o.b., Holland. CORIANDER.—Market quiet: Morocco new crop on spot is offering at 14s. 6d., duty paid, and 13s., in bond. For shipment 11s. 3d., c.i.f., quoted. CUMIN.—Morocco, spot, 40s., duty paid; new crop for July-August shipment, 35s. 6d., c.i.f. No Malta offering on spot. DILL.—Spot, Indian, 11 per cent., 17s. 6d. FENNEL.—Spot, Indian, 2 per cent., 30s.; Iran, 24s. to 26s., in bond. FENUGREEK.—Spot, Indian, 12s. 6d.; Morocco, 12s., duty paid. MUSTARD.—English, 26s. to 33s., according to quality.

SENEGA.—Conditions remain quiet in this market, but shipment quotations are steady: spot, new crop, 2s. 6d.; shipment, from 2s. per lb., c.i.f.

SENNA.—The spot market is poorly supplied with parcels of good green, and shipments of new crop just received have shown a disappointing outturn. It would appear that the crop this season is not very good, and it is hoped that the July-August shipments from India will be of better quality. America has been buying fairly heavily at the origin, with the result that shipment prices are firm to dearer; in some instances spot values show no premium on the forward shipment rates. Spot supplies offer as follows: Good bold No. 1 at 7d.; No. 1 at 5d.; No. 2 at 3½d.; No. 3 at 2½d.; No. 4 at 2½d. per lb. Tinnevely hand-picked pods: pale selected quoted at 5½d. to 6d. per lb. Darker quality available at 4d. to 4½d. per lb. F.a.q. pods offered at 2½d. per lb. Alexandrian hand-picked pods: spot quotations as follows: fair to good greenish No. 1 at 4s.; No. 2 at 3s. 3d.; No. 3 at 2s. per lb. Old crop pods offering at 1s. to 1s. 6d. per lb., ex wharf, London.

SHELLAC.—Values show a slight increase: standard TN orange, 34s. 6d. to 37s. 6d.; August, 34s. 6d.; October, 35s. 9d.; fine orange, 52s. 6d. to 77s. 6d.; pure button, 45s. to 47s. 6d. per cwt. For arrival, TN, July-August, 35s., c.i.f.

SLIPPERY ELM BARK.—Occasional small trade: 5-lb. wired bundles, selected quality, about 1s. 4½d. to 1s. 5d. per lb., ex store.

SQUILL.—Dealers find a little trade: good white from 27s. 6d. to 28s. 6d. per cwt. Some Maltese, yellowish, at about 22s. 6d. per cwt.

STRAMONIUM LEAVES.—Small spot parcels are quoted at about 35s. to 42s. 6d. per cwt., as to quality.

TONKA BEANS.—Cheap prices quoted, trade quiet: bulk supplies of fair frosted Para beans at about 1s. 7d. to 1s. 9½d. per lb., ex store; shipment, 1s. 3d., c.i.f.

TRAGACANTH.—Market is reported to be steady but quiet: finest selected white ribbon, £60; No. 1, white, £55 to £57 10s.; No. 2, white, £50 to £53; No. 3, white, £35 to £42 10s.; amber leaf, £32; cleaned amber sorts, £16; brown to amber leaf, £11 10s.; red leaf, £9 to £10; hogg, £6 to £7 per cwt., ex store.

TURNERIC.—Market firm. Spot, Madras finger, sold at 30s.; Rajapore, quoted at 31s. Shipment, Madras quoted at 27s. to 27s. 6d., c.i.f., and Rajapore, 28s. to 28s. 6d. per cwt., c.i.f.

VALERIAN ROOT.—Dealers are asking up to 37s. 6d. per cwt., for small parcels.

WAXES.—BEES'.—Markets are about steady despite poor business: Dar-es-Salaam, spot, 100s.; shipment, 90s., c.i.f. Benguella, 90s., in bond; shipment, 85s., c.i.f. Conakry, 90s., in bond; shipment, 85s., c.i.f. Japanese, spot, 74s., duty paid; shipment, August-September, 58s. per cwt., c.i.f. for first three brands. Madagascar, F.d.e., 92s. 6d., duty paid; shipment, new crop, August-September, 77s. 6d., c.i.f. CARNAUBA.—Continue steady on a quiet market: fatty grey, spot, 142s. 6d.; afloat, 137s. 6d.; shipment, August-September, 137s. 6d., c.i.f. Chalky, grey, spot, 137s. 6d.; shipment, August-September, 135s., c.i.f. Primeira, spot, good quality, 195s.; shipment, August-September, 182s. 6d.; Mediana, spot, 180s.; shipment, 180s. per cwt.

Essential and Expressed Oils, etc.

Business in these products has been generally quiet. Quotations for Australian eucalyptus are again dearer. Sicilian lemon is maintained at recent high levels. West Indian lime is steadier. Petitgrain is dearer and Wormseed has advanced again.

ALMOND.—Values unchanged; small demand: English-made cwt. lots, 2s. 3d.; smaller parcels, up to 2s. 9d. per lb.; foreign, cwt. lots, 2s. 4½d.; smaller parcels, up to 3s. per lb. French bitter, 6s. to 6s. 1½d. per lb.

ANISE (STAR).—A little business, with drums short on spot: spot, leads, 3s. 3½d.; tins, 3s.; drums, 2s. 11d. per lb., ex store; shipment, tins, 2s. 8d.; drums, 2s. 7½d. per lb., c.i.f.

AVOCADO PEAR.—Business of small account: Californian oil is unchanged at 42s. 6d. to 50s. per gallon, as to quantity.

BAY.—Average small spot orders: cases, 4s. to 5s. per lb., as to quantity.

BERGAMOT.—Consortium shipment quotation continue unchanged at about 15s. per lb., c.i.f., in coppers. Spot values are from 15s. 3d. for genuine oil, with blended products at cheaper prices.

BOIS DE ROSE.—Market is steady but business is quiet: Brazilian, spot, drums, from 5s. 9d.; smaller lots, up to 6s. 3d.; shipment, 5s. 6d. per lb., c.i.f., in drums.

CAJUPUT.—Dealers report dull market: B.P., 1s. 10d. to 2s. 1½d. per lb., as to quantity.

CAMPHOR.—Values are nominal owing to lack of supplies: small repacked lots would be worth about 24os. per cwt.

CASSIA.—Market continues neglected: spot, leads, about 3s. 1d. and drums at 3s.; shipment, tins, 2s. 8d.; drums, 2s. 7½d. per lb., c.i.f.

CEDARWOOD.—Shipment markets for both oils dull; small spot demand: African, in drums, 11½d.; smaller packages, up to 1s. 4d. per lb. American, in drums, 11½d.; smaller packages, up to 1s. 4d. per lb., ex store.

CINNAMON LEAF.—Spot values for repacked oil are steady: Ceylon oil, repacked in limited quantities, about 2s. 6d. to 2s. 9d. per lb., as to quantity.

CITRONELLA.—Quotations for shipment are unchanged, with inquiry small: Ceylon, spot, drums, from 1s. 6½d.; smaller parcels, up to 1s. 10½d.; shipment, drums, 1s. 0½d. to 1s. 1d. per lb., c.i.f., for bulk quantities. Java, spot, drums, about 1s. 7½d.; smaller parcels, up to 2s.; shipment, drums, about 1s. 1½d. per lb., c.i.f.

CLOVE.—Usual spot trade in limited quantities: Madagascar, spot, drums, 2s. 7d. per lb., if available; smaller parcels, up to 3s. 3d. English distilled, 4s. 3d. up to 4s. 9d. per lb., as to quality and quantity, ex store.

EUCALYPTUS.—Spot and forward prices have again advanced, with shipment offers restricted to October dispatch: Australian, 70 to 75 per cent., tins, 1s. 7½d.; drums, 1s. 7d.; 80 to 85 per cent., tins, 1s. 9½d. per lb., ex store, with higher prices for small lots; shipment, 70 to 75 per cent., tins, 1s. 6½d.; drums, 1s. 6d.; 80 to 85 per cent., tins, 1s. 7½d.; drums, 1s. 7½d. per lb., c.i.f.

GERANIUM.—Business very quiet with quotations irregular: Bourbon, spot, 10s. 3d. to 10s. 6d.; shipment, about 9s. 6d., c.i.f. Algerian, spot, 11s. to 11s. 6d.; shipment, 10s. 4½d. to 10s. 6d. per lb., c.i.f.

GRAPE-FRUIT.—Occasional spot demand, values steady: Californian, 10s. 3d. to 11s. 6d.; Florida, 11s. to 12s. 3d. per lb., ex store, as to quantity.

HO (SHIU).—No trace of any bulk spot supplies: spot values are nominal. No shipment offers.

LEMON.—The reports from importers indicate that at the recent ruling shipment values there has been hardly any inquiry for Sicilian oil. Shippers' offers continue to be few in number, but the position may be slightly easier, with figures of about 12s. 9d. to 13s. per lb., c.i.f., for B.P. standard oil, in coppers. A fair spot trade is reported, and from 12s. to 12s. 7½d. is reported paid for genuine oils, with blended products at cheaper prices. Californian oil, distilled, regular quality, is quoted unchanged at 1 dollar 29 cents per lb., landed, in small drums. Californian cold-pressed, in cases, 2 dollars 13 cents (about 9s. 1½d.) per lb., with supplies afloat but not yet to hand.

LEMONGRASS.—Shipment market remains dull: spot, 1s. 7½d. to 2s., as to quantity; shipment, about 1s. 5d. per lb., c.i.f.

LIME.—The market shows further improvement this week; fair trade: West Indian distilled oil, spot, from 13s. 3d. up to 14s. per lb., as to quantity.

LINSEED.—Values about level on the week, market quiet: raw, naked, spot, in small quantities, 26s. per cwt.; August, in bulk, 23s. 7½d. Boiled oil, spot, 29s. per cwt.

MANDARIN.—Not much business moving: according to quality of the oil, from 14s. 6d. to 15s. 8d. per lb.; shipment, 14s., c.i.f.

NEROLI.—Quotations are steady with new crop oil, landed terms, at 16s. 1½d. to 17s. per oz.

NUTMEG.—Market is quiet: Dutch and American, from 5s. 4½d. to 5s. 9d. per lb., as to quantity.

OLIVE.—Values are rather easier, business restricted: B.P., 1 per cent., 5s. 6d. per gallon, in drums. Edible quality, ten 1-gallon tins, in cases, 72s. 6d.; twenty ½-gallon tins, in cases, 75s. per case; drums, 5s. 9d. per gallon, ex store.

ORANGE.—A steady sale of limited quantities is reported on spot, and values are now fairly well maintained: good oil in drums about 2s. 9d. and up to 3s. 3d. for repacked lots. The shipment market is steady at 2s. 4d. per lb., c.i.f., in drums, with offers restricted: Californian, in small drums or two or more cases, 58 cents per lb., ex store.

PALMAROSA.—It is difficult to locate any spot supplies except odd small lots, for which high prices are now asked. Small odd lots might be had at 8s. 9d., ex store. Shipment: bids of 8s. 3d. per lb., c.i.f., might be accepted.

PATCHOULI.—Values steady, but the demand remains poor: Singapore, spot, 11s. 3d. to 11s. 6d.; shipment, nothing definite offered. Seychelles, spot, from 8s. 6d. to 8s. 9d. Java, about 9s. 3d. per lb.

PEPPERMINT.—This market has been particularly quiet, the volume of business being negligible: Japanese, spot, 4s. 5½d. to 4s. 6d., as to brand and seller. Shippers quote August-September at 4s. 2d., c.i.f., with re-sellers of June-July at 4s. 1½d., c.i.f. Chinese, spot, 4s. 4½d. per lb.; shipment, 4s. 6d. to 4s. 8d., c.i.f. Fair sales on spot reported. American natural oil, in drums, is unchanged and quiet: quoted at 2 dollars 15 cents to 2 dollars 25 cents per lb., c.i.f.

PETITGRAIN.—Spot and forward quotations dearer: spot, in cases, 3s. 4½d. per lb.; shipment, from 3s. 1½d. per lb., c.i.f., as to quantity. French, to come forward, quoted from source at 835 francs per kilog.

SANDALWOOD.—Genuine East Indian Mysore, in one-case lots, steady at 20s. 6d. per lb., East Indian, produced outside the province of Mysore, 16s. 7½d. to 17s. 3d. per lb., c.i.f., in bulk quantities. English-made West Indian, 7s. 3d. per lb. Australian, steady at 15s. 3d. per lb. for 7-lb. tins, one case at 14s. 9d. and five cases at 14s. 6d. per lb.

TI-TREE.—Continues firm as quoted on spot: from 52s. 6d. up to 60s. for single gallon tins.

TURPENTINE (AMERICAN).—Slightly easier and quiet: London, 33s.; Hull, 34s. 3d.; Liverpool, 34s. 9d. London stocks on July 22, 15,071 barrels.

VETIVERT.—Boubon, spot, 14s. 9d. to 15s. 3d.; Java, about 13s. per lb., ex store.

WORMSEED.—U.S.P. oil, spot, about 10s. 6d.; shipment, firm from 10s. per lb., c.i.f. Values have again advanced.

Trade-Mark Applications

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary and Year-Book," 1939, p. 342.

(From "The Trade Marks Journal," July 5, 1939)

SCHEDULE IV

"IMMINASTIMO"; for pharmaceutical preparations for asthma (5). By C. F. Boehringer & Soehne G.m.b.H., Sandhofstrasse 112 to 132, Mannheim-Waldhof, Germany. 606,142.

"ENDROID"; for pharmaceutical substances (5). By Endroid, Ltd., 27 Old Bond Street, London, W.1. 606,276.

Monogram "B.P.P." (letters disclaimed); for medicines for nasal ailments and antiseptics (5). By The Berogen Pharmaceutical Products, 308 Stepney Way, London, E.1. 606,476.

"CINATRAL"; for pharmaceutical products (5). By Les Etablissements Byla, 26 Avenue de l'Observatoire, Paris. 606,519.

"LUZANO"; for pharmaceutical preparations (5). By H. R. Napp, Ltd., 3 Clements Inn, London, W.C.2. 606,915.

"BENEDIL"; for medicinal ointment having a base of pancreatic ferments. "OCIPAL"; for all goods (5). By Bayer Products, Ltd., 31 Basinghall Street, London, E.C.2. 606,991/607,209. (Associated.)

"MAKONUS"; for photographic apparatus, etc. (9). By James Magnus & Co., 23 Barbican, London, E.C.1. 606,084.

"ALPHA" in hexagon; for water softening apparatus (11). By Nesco Products, Ltd., 15 Dufferin Street, Bunhill Row, London, E.C.1. 605,215.

APPLICATION AMENDMENTS

The specification of "VEL-FIN" in Class 5, No. 600,916, by S. Maw, Son & Sons, Ltd., has been amended to "Pharmaceutical and veterinary substances."

The specification of "SOLITON" in Class 5, No. 605,249, by H. R. Napp, Ltd., has been amended by adding "but not including antiseptics or disinfectants and not including any goods of the same description as any of these excluded goods."

(From "The Trade Marks Journal," July 12, 1939)

SCHEDULE IV

"B.D.H."; for photographic and agricultural chemical products, etc. (1); pharmaceutical and sanitary substances, etc. (5). By The British Drug Houses, Ltd., 16 Graham Street, City Road, London, N.1. 602,625/8. (Associated.)

"ICEPLAS"; for photographic and agricultural chemicals, etc. (1). By I.G. Farbenindustrie A.G., Grüneburgplatz, Frankfurt-on-Main, Germany. 606,971/2. (Associated.)

"I B C O" in diamond shape; for soap (3). By A. Ibbetson & Co., River Road, Creeksmouth, Barking, Essex. 600,745. (Associated.)

Correspondence

Correspondents may adopt an assumed name, but must in all cases furnish their real name and address to the Editor

Food and Drugs (Adulteration) Act, 1928

SIR,—In this county the analyses of samples of so-called "fruit wine" have shown, in nearly all cases, the article consists of a sugar solution artificially coloured and artificially flavoured and to contain a little tartaric (or citric) acid, but no natural fruit juice. The drink is usually non-alcoholic, and is not therefore entitled to the name "wine," but the principal objection is that it is described as a fruit wine and does not contain any natural fruit juice and it is not fermented. A label describing such an article as fruit "wine" falsely describes the article sold. It is submitted that bottles containing these drinks should be labelled "Artificial Fruit Wine" or "Synthetic Fruit Flavoured Artificial Wine." You will appreciate that the object of this letter is to avoid prosecutions on the matter and to give suppliers, if they so think fit, an opportunity to alter the wording of labels applied to artificial "wines" in time for the next Christmas supplies. May I add that samples will be taken in this county after sufficient time has elapsed for alteration of labels and that proceedings will be taken where any such sample is adversely reported upon.

Yours faithfully,

S. STRUGNELL,
Chief Inspector.

Newcastle-upon-Tyne, 1.

Poisonous Products and the C.F. List

SIR,—Regarding the correspondence in last week's *C. & D.*, I should like your readers to know that whilst at the beginning of the C.F. we accepted applications for the C.F. list on the same basis as the P.A.T.A. list, that is, treated each article separately, we soon found that it was not satisfactory, and for nearly three years we have made acceptance on the C.F. conditional upon the firm including "all eligible preparations." The great majority of firms on the list have included all eligible preparations. Regarding the statements made by "Unlisted C.F.," these are ridiculous and need no answer, except the unworthy insinuation that the N.P.U.'s first consideration is how much it can extract in fees from the manufacturer. The fact that the N.P.U. has conducted the C.F. for nearly four years without any fees from manufacturers or wholesalers, or any extra payment by retailers, adequately disposes of that attempt to create prejudice against the C.F. The annoyance of this particular manufacturer is obvious evidence of the increasing success of the C.F. movement; it is a pity he does not sign his name and thus let chemists prove whether or not the manufacturer sells the goods.—Yours faithfully,

G. A. MALLINSON,
Secretary.

4 and 5 Queen Square, London, W.C.1.

Science in the Theatre

SIR,—Pharmacists who are interested in the drama may find it amusing to see "The Man in Half Moon Street," a play now running in a London theatre, and to discover, if they can, the flaws in the science somewhat liberally incorporated in its texture. They will find it to be an ingenious variation on the Faust theme, with special reference to radiotherapy and endocrinology. In the opening scene the principal character is found receiving, with the help of his manservant, a dose of rays of some kind. Shortly afterwards he discusses with an old medical man who has arrived from Germany the prospects of having his suprarenal glands exchanged with those of the manservant, who in consideration of a substantial fee is prepared to submit to a simultaneous operation. It appears, however, that the manservant's blood does not belong to the correct subgroup: an additional difficulty is that the eminent surgeon invited to perform the operation declines. The principal character accordingly decides that he must go to Paris in the period that remains before the glands cease to function, a period estimated by him at a month or six weeks. He is actually about ninety years of age, but by means of suitable glandular treatment (of which he has made a profound study) and radiotherapy he is so well preserved as to appear about forty. He is an artist of sorts as well as a "chemist," and has formed an attachment for the daughter of a British peer.

His sole source of income, however, seems to be the organisation of bank robberies on a large scale; each robbery has been followed by the murder of the actual thief and the complete destruction of his body—nothing is said about the clothes—in a solution prepared in the chemist's flat to his own formula. Acid carboys of ordinary size and appearance stand on the floor of his laboratory. One drawback to the radium or ray treatment is that his face and hands are luminous in the dark (the audience sees this effect), and consequently he cannot go out at night. A finger-print system is introduced with results baffling to the police authorities. In the last scene of the play another bank robbery has been effected, but on examination the notes are found to be dummies: the shock to the chemist brings on glandular dysfunction, and in a few minutes he manifests more than one sign of senility. It is usual, I believe, in current dramatic criticism not to indicate in detail the plot of a new play; but I may add that the craftsmanship of this "thriller" is quite neat.—I am, etc.,

PLAYGOER (24/7).

The Power of Advertisement

SIR,—"Country Chemist" (*C. & D.*, July 15, p. 77) tells us of a customer who received 3xij. of paraffin. liq. on an Insurance prescription, and who also bought some of a proprietary brand, and he gives us his opinion of where the dispensed variety will find its destination. In the early days of the Insurance Act some prescribers used to add extract of malt and cod-liver oil to their prescriptions as a routine procedure, and cotton-wool and lints were ordered by the pound. This kind of waste has practically been eliminated, but there still remains a large amount of waste due to other factors. One of these is the prescribing of liquid medicaments, mixtures and liniments in large quantities which are not used before the patient visits the surgery again for a new prescription. If this is done with a view to economising on the dispensing fees, the saving effected must be more than counterbalanced by the wastage in drugs. Another source of waste arises in cases where a customer receives something he does not expect. Most panel chemists have had experience of the customer who brings in a script for a lotion or an ointment, and when handed the article asks: "What do I do with this?" If all waste of drugs and dressings could be eliminated, it might prove helpful towards the payment of dispensing fees more in keeping with professional work.—Yours, etc.,

PARALLIQ (18/7).

Ratio to Population

SIR,—The number of inhabitants suggested as requisite to enable a chemist to make a living is given as 2,300 (*C. & D.*, July 22, p. 81), although I have understood that 3,000 was about the minimum. It would be more interesting if we could know what the average turnover was for this number of inhabitants, and whether the number required per pharmacy was more or less in towns than in villages or country districts. Another point is why it should take more people to support a chemist than any other trade; is it, perhaps, because in spite of all legends to the contrary the chemist makes less profit on his turnover? Or is it because the public have less need to deal so frequently with the chemist than with the other shops, and so his takings are smaller than in any other trade? In France it is proposed to fix the range of a pharmacy in an urban district as 5,000 inhabitants, and in a rural area 3,000, the first figure being double that of the English estimate. Speaking from recollections of a few years ago, the prices in French pharmacies tended to be lower than ours; but, on the other hand, so were the overheads. The French pharmacist does not sell so many side-lines as the British, and this may account for a smaller turnover for the number of possible customers. There is also the fact that the pharmacien enjoys a higher status than the English chemist, ranking with the other professional men of the district, and this may have been taken into account when considering the scope of his practice in order to ensure him an emolument adequate to his position.

Faithfully yours,

PER CAPITA (24/7).

Miscellaneous Inquiries

We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them

T. P. W. (17/7).—SETTING LOTIONS.—We think you will find the following formulas satisfactory for your purpose:—

Mucilaginous

Acacia, in powder	..	..	..	0.3
Borax, purified	..	..	..	2.0
Spirit	..	..	..	10.0
Water, distilled or rose	..	..	to	100.0

Dissolve the acacia and the borax in eighty parts of water, add the spirit, which may be perfumed with terpineol or otherwise, and dilute to the requisite bulk.

Akaline

Potassium carbonate	..	..	..	20 gr.
Solution of ammonia	..	..	..	5m
Glycerin	..	..	..	20m
Alcohol (90 per cent.)	..	..	..	2 oz.
Orange-flower water	..	..	..	3 oz.
Perfume	..	..	..	a sufficiency

L. G. E. (17/7).—CLEANING PEWTER.—A soap containing a fine insoluble powder can be used to clean the surface, or a weak, hot solution of potassium carbonate can be poured over the article, a fine abrasive thrown on to it, then the article can be rubbed with a hard woollen rag or a piece of felt. When the surface is clean, the polish is heightened with oil and rottenstone.

W. & H. (21/7).—HENNA HAIR DYES.—The following is the table of henna dyes you ask for:—

	Light brown	Brown	Dark brown	Black
Henna powder	100	100	100	100
Pyrogallol	5	5	10	15
Copper sulphate	5	7	8	10
Sienna	5	5	10	10
Lamp-black	Nil	1	5	20

The length of time these dyes are used can be seen from the following:—

Colour	Minutes
Blonde	5 to 10
Light brown	20
Mid-brown	30
Brown	30 to 35
Dark brown	45
Black	60

S. & C. (21/7).—PROGESTERONE PREPARATIONS.—We are not sure which particular preparation you have in mind. It may possibly be pregnenolone, a synthetic ethinyl testosterone which has a progesterone-like action and which is closer in structure to progesterone than testosterone. This was mentioned in the "British Medical Journal," May 20, 1939, p. 1040, and is very active orally. On the other hand, it may be gestone, a commercial brand of progesterone which was used in the treatment of an allergic patient for rhinorrhœa. This, however, was given parenterally not orally. It was referred to in the "B.M.J.," May 13, p. 974.

T. S. (24/7).—COMPOUND DIGESTIVE ELIXIR.—This is a synonym for elixir pepsini co. of the National Formulary of the American Pharmaceutical Association and is as follows:—

Pepsin	..	..	..	35 gm.
Lactic acid	..	..	..	1 c.c.
Glycerin	..	..	..	250 c.c.
Alcohol	..	..	..	200 c.c.
Oil of orange	..	..	..	2 c.c.
Tincture of cudbear	..	..	..	10 c.c.
Distilled water, a sufficient quantity to make	..	..	..	1,000 c.c.

Add the pepsin to 500 c.c. of cold distilled water containing the lactic acid, and allow the mixture to stand in a cool place until the pepsin is thoroughly softened; then stir very gently until dissolved, and add the glycerin. Dissolve the oil of orange and the tincture of cudbear in the alcohol and gradually add this solution to the pepsin solution with gentle stirring. Then add sufficient distilled water to make the product measure 1,000 c.c., and filter until the product is clear.

E. T. W. T. (26/7).—PHOSPHORUS PASTE.—A paste of the nature you refer to could be made on the lines of the following formula:—

Phosphorus	..	..	..	5 dr.
Hot water	..	..	..	20 oz.

When the phosphorus has melted add

Flour	..	..	..	14 oz.
Oil of anise	..	..	..	6 drops

The quantity of phosphorus could be modified slightly to your particular requirements.

Calomel (24/7).—COW'S MILK.—The case is not one which can be diagnosed on the evidence before us, and in our opinion the animal should be seen by a veterinary surgeon.

T. C. (26/7).—CHOLESTERIN HAIR LOTION.—The following is an example of a stimulating hair lotion containing cholesterol:—

I	
Spirit (90 per cent.)	75
Isopropyl alcohol	5
Carbon tetrachloride	3
Glycerin	2.65
Cholesterin	0.25
Distilled water	13
Lecithin	0.1
Cologne oils	0.5
Perfume	
Colour (yellow)	a sufficiency

R. G. C. (25/7).—FIRELIGHTERS.—Among the substances used for applying to wood shavings or sawdust in making firelighters are molten resin or pitch. Alternatively the firelighter can be dipped into either of the following mixtures: (1) Resin 30 parts, thin petroleum oil 5 parts; (2) distillery waste 20 parts, crude paraffin 10 parts. Solutions of resin, naphthalene and other coal tar bodies in a petroleum solvent could also be used for the purpose.

R. S. C. (23/6).—WATERPROOFING TENT FABRIC.—One method is to dissolve soft soap in hot water, then add a solution of ferrous sulphate until no further precipitate is formed. Collect the precipitated iron soap, wash with water, dry and then mix it with linseed oil. This mixture is applied with a brush to the canvas and has the advantage that it does not render the latter too stiff. An alternative method consists of dissolving 3 oz. of alum in half a gallon of water and soaking the fabric in this solution. Then immerse it in a solution of 4 oz. of lead acetate in half a gallon of water. When dry, the white powder is removed by brushing.

Retrospect of Fifty Years Ago

Reprinted from
"The Chemist and Druggist," July 27, 1889

Mixtures

This term, as applied by us to a liquid compound, cannot be of great antiquity, inasmuch as the mixture of mixtures was undoubtedly in the form of an electuary, and he was considered a benefactor to his race who could add a few more drugs to the already crowded pharmacopœia. But I am not going to grumble with the application of this word to some of the present liquid forms of medicine; as we all know, to our cost, what a deal of mixing is sometimes required in dispensing prescriptions which resemble family washing bills in their interminable length. At first such formulas astonish us, but on reflection we see that they are the outcome of commendable caution. The writer would not risk the chance of not killing his enemy by a rifle shot, so he employs a blunderbuss, hoping that one or other of its missiles may possibly do execution. These mixtures are evidently built on the same lines as the old electuaries, where the multitudinous ingredients crystallise, as it were, round a paramount remedy. . . . We can well imagine with what satisfaction the writer adds the final "fiat mistura," when at the end of the list! 'Twas time!—From "Then and Now," by Henry Groves, Ph.C.

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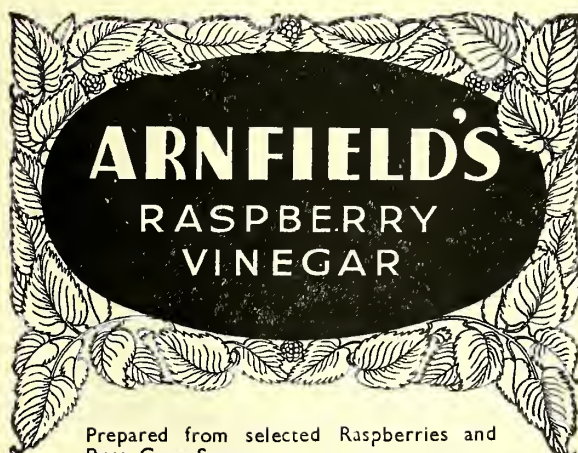
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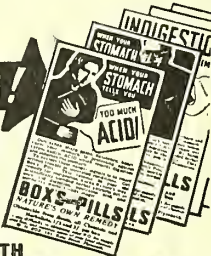
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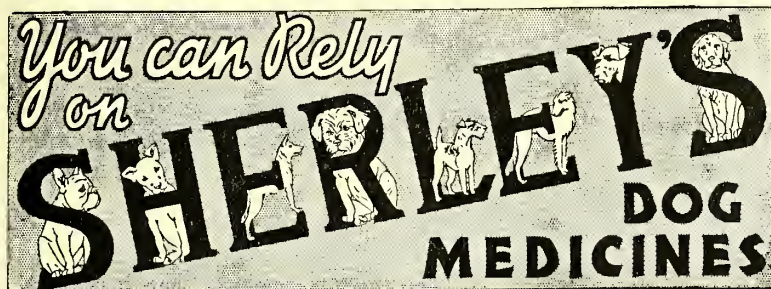
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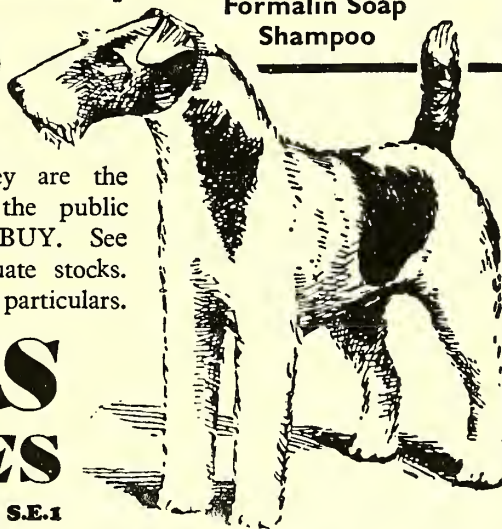
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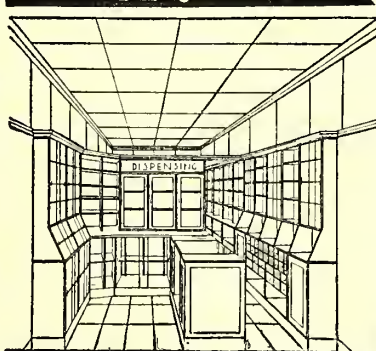
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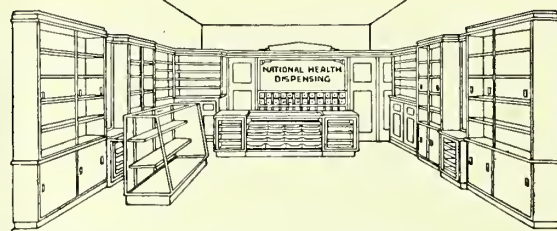
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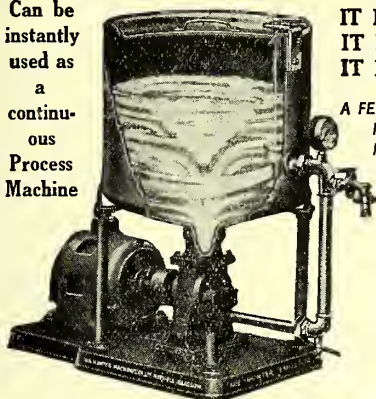
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This Supplement is inserted in every copy of The Chemist & Druggist

28 ESSEX STREET, LONDON, W.C.2

JULY 29, 1939

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2.—**BALHAM**.—Old-established Cash Retail Business; returns £1,500; scope for increase; rent £110; sublet £72; price £750 or £100 plus stock and fittings at valuation; vendor leaving retail.

3.—**CRICKLEWOOD (NEAR)**.—Recently-established Branch Business for disposal for family reasons; present takings £20 per week plus Panel, scope; reasonable rental; long lease; reasonable offer accepted.

4.—**CHADWELL HEATH (DEATH VACANCY)**.—General Retail Business offering scope for considerable increase; turnover last year, including Panel, £1,158; net profit £285; spacious living accommodation; inclusive purchase price asked £500, or valuation terms considered; no reasonable offer refused.

5.—**NOTTINGHAM (RETIREMENT VACANCY)**.—Chemist Business for immediate disposal; in present hands 36 years; net profit average £398 per annum; stock £550; new lease at very low rental; inclusive price asked £750.

6.—**HASTINGS**.—General Retail Business; increasing turnover; net profit exceeds £400 per annum; nice living accommodation; heavy stock; total purchase price about £1,000.

7.—**CORNISH RIVIERA**.—Middle-class Business for disposal; turnover exceeds £2,000 per annum; new lease at reasonable rental; purchase price about £1,100, including stock worth over £900.

8.—**EAST HAM (NEAR)**.—Working-class Cash Retail Business; Panel £5; cash takings £14 per week; comfortable living accommodation; reasonable rental; purchase price £450.

9.—**SURREY**.—Modern Cash Retail Business; returns last year £1,300, plus Wholesale Developing and Printing £30-£40 weekly in season; double-fronted shop; flat over; price £700 plus stock, about £1,150 all-at.

10.—**SOUTHEND-ON-SEA**.—Old-established Business making about £400 per annum net profit; new lease at £75 per annum; total purchase price £1,000-£1,100; Vendor retiring; nice house.

11.—**CHISWICK**.—Middle-class business, turnover £1,500; gross profit, £550; net profit £350; same hands 12 years; price £750 or near; corner shop.

12.—**CUMBERLAND (DEATH VACANCY)**.—Well-established General Retail Business; takings since decease of proprietor average £37 per week; rent £76 per annum plus rates; lovely surroundings; good house; very reasonable purchase price; part payment considered.

13.—**DOVER**.—Middle-class Business; turnover last year £1,144; good profits; stock alone worth £500; nice living accommodation; rent £65; total purchase price asked £650.

14.—**DUBLIN**.—Very old-established Business for sale owing to Vendor accepting an appointment; turnover last year £1,035; premises occupy splendid position in best part of city; low rental; inclusive purchase price asked £400.

15.—**ISLE OF WIGHT**.—Family Retail Business; takings last year over £1,600 under management; nice living accommodation; stock worth about £600, fixtures and fittings about £300; total purchase price £1,100 or near offer.

16.—**MARGATE (NEAR)**.—Old-established Business, turnover last year under management £2,134; splendid living accommodation; reasonable rental; Innova Agency; total purchase price £1,100, including stock £600.

17.—**BLACKBURN (NEAR)**.—Working-class Business with splendid Panel; takings last year under management £1,716; net profit £400 per annum; living accommodation; inclusive purchase price asked £950; near offers considered.

18.—**STAFFS**.—Light Retail Business run as Drug Store; turnover £18 per week; scope in hands of chemist; rent £52 per annum, includes fixtures; stock over £500; total purchase price required £650.

19.—**LOWESTOFT**.—Ill-health necessitates early sale of business; takings last year £800; net £160; stock £200; nice living accommodation; rent £1 per week; total purchase price £250; scope.

20.—**HASTINGS**.—Stock for sale for removal purposes; recently valued at approximately £150; shop closed; offers invited.

21.—**BRISTOL**.—Good Middle-class Business, well situated; valuable lease; takings £1,800 last year; price £450 plus valuation.

22.—**STOKE-ON-TRENT (NEAR) (DEATH VACANCY)**.—In late proprietor's hands 40 years; takings last year £1,455; living accommodation; premises may be purchased or leased; price for business £800; freehold £650; immediate sale desired.

23.—**NORTHAMPTON (RETIREMENT)**.—Vendor 72; takings about £800; net profit, approximately £200; living accommodation; garden; rent £70; total purchase price £325.

24.—**HOYLAKES (NEAR)**.—Small old-established Dispensing Business producing approximately £200 per annum net profit; low rent; lock-up shop; price £400.

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Telephone: Stockport. Telephone: Great Moor 2405.

Lancashire and District Representative: Mr. E. BROWN, 21 Davenport Rd., Hazel Grove, Stockport.

(C1) SOUTHERN COUNTY.—Good-class business situated in congenial country district; elegantly fitted Pharmacy; extensive photographic connexion; turnover nearly £6,000 per annum; net profit for current year should approximate £1,500; stock and fixtures estimated at £2,500, and £2,250 will be accepted for the valuable goodwill and lease, representing only about 1½ years' profit; rent £150 per annum; lease 15 years unexpired; exceptional opportunity for enterprising chemist.

(C2) HERTFORDSHIRE.—Middle-class business, situated near to film studios; turnover for last financial year £1,996; flat above which can be taken or otherwise at purchaser's option; new 21 year lease at reasonable rental; price asked £1,150, including stock £500, but offers will be considered, as a quick sale is desired.

(C3) VICTORIA (NEAR).—Double-fronted Pharmacy, with up-to-date front, and well fitted interior, occupying main road position; turnover for last financial year £1,666; net rent £40 tos. only; lease 17 years unexpired; no Sunday duty; excellent scope; price all at £1,000, representing stock £650, and fixtures £350.

(C4) MIDDLESEX (BETWEEN HARROW AND NORTHWOOD).—Good-class business, situated in busy shopping street near to leading multiples; turnover approximately £2,000 per annum; up-to-date flat present sublet; excellent scope; price £1,450/£1,500, according to value of stock on completion.

(C5) MANCHESTER (RETIREMENT VACANCY).—Old-established cash business with no immediate opposition; excellent scope; turnover approximately £2,000 per annum; net profit £450/£500; reasonable overheads; price £800 plus stock at valuation; near offer considered.

(C6) NORTH STAFFS (DEATH VACANCY).—Old-established family business; turnover for last financial year £1,455; net profit £242; certified accounts; rent £75, including living accommodation, or freehold could be purchased for £650; lease as required; price all at £800, including stock £500; excellent opportunity for young energetic chemist.

(C7) NOTTINGHAM.—Old-established middle- and working-class business with living accommodation; turnover for last financial year £1,188; net profit £365; rent £52; no near opposition; price all at £750, including stock and fixtures estimated at £650; stock can be reduced if necessary.

(C8) KENSINGTON (NEAR).—Old-established business situated in good-class residential area; turnover and sublet income for 1938/39, £2,514; net profit £561; net rent and rates approximately £80; excellent scope; price all at £1,850 or reasonably near offer.

(C9) MERSEYSIDE (RETIREMENT VACANCY).—Old-established cash business, with large N.H.I. and no immediate opposition;

turnover for 1938-39, £1,349; gross profit £634; net profit £397; rent £70; sublet £32 tos.; new lease by arrangement; price £800 or near offer.

(C10) NORWOOD.—Drug store with good living accommodation; present returns approximately £15 weekly, but scope exists for substantial increase, particularly under qualified proprietorship; the district is still developing; reasonable rental; price all at £300.

(C11) ESSEX.—Middle-class business with increasing turnover; returns for current year approximately £1,300; modern house in first-class condition; garden; rent £100; price £850, including stock £300, and attractive fixtures, estimated to be worth a similar figure; valuation terms if preferred.

(C12) NORTH WALES.—Working-class business of the mixed type (all cash); no opposition; turnover for last financial year £1,400; rent £42; lock-up shop; Kodak, etc., agencies; price £850 or nearest offer.

(C13) WIMBLEDON.—Exceptionally good profit-earning business, established 30 years; turnover for 1938/39, £1,090; gross profit £442; rent £90 per annum, including self-contained house; stock estimated at £300; price all-at for a quick sale £500.

(C14) HERTFORDSHIRE (NEAR).—Branch business of the better-class type, offering scope for substantial increase under personal proprietorship, can be acquired for little more than value of stock and fixtures only; turnover for last financial year £1,275; Elizabeth Arden agency; flat available if required.

(C15) SURREY (38 MILES FROM WATERLOO).—Good family business with no near opposition, situated in congenial country town; present returns approximately £25 weekly with genuine scope for considerable increase; the previous owner died some years ago, since when the business has been carried on with qualified assistance; rent £80 per annum; price all-at £700/£750, being the estimated value of stock and fixtures only; excellent opportunity.

(C16) ILFORD.—Opportunity to purchase business with no near opposition, for an all-in figure of £250, including stock estimated at £200; turnover approximately £1,200 per annum; rent £85; further particulars upon application.

(C17) UXBRIDGE (NEAR).—Branch business situated in growing district; turnover approximately £1,400; net profit to owner-manager £350/£400; rent £78, which includes living accommodation; price all at £500 or near offer.

(C18) LUTON.—Pharmacy with living accommodation, situated in populous area; turnover for last financial year £1,112; rent £91; all cash trade; price all at £495; offers considered.

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2.—SOUTH COAST.—Good middle-class Business, in main road position; returns £1,750, net profit £400; modern premises; well stocked; price about £1,100.

3.—EASTERN COUNTY.—Middle-class light Retail, in busy town; returns over £1,100, net profit £332; lock-up shop; well stocked; price £525.

4.—HERTS.—Good middle-class Business, in busy town; returns average £1,300; books audited; modern Pharmacy, fully stocked; price £850; freehold available.

5.—SUFFOLK.—Unopposed mixed Village Business with valuable appointment; turnover £1,000 to £1,200; net profit nearly £300, excluding good income from appointment; good house and garden; owner retiring; price £850; freehold available at £500.

6.—EAST MIDLANDS.—Middle-class Cash Business; turnover £1,800; gross profits £619; rent £75; well-fitted Pharmacy, with living accommodation; stock worth £400; price £700.

7.—WEST MIDDLESEX (18 miles out).—Sound progressive Business in growing residential district; returns over £1,000, will do double; modern premises, well stocked; price £500; worth attention.

8.—HAMPSHIRE.—Middle-class Business, returning over £2,200, audited figures; double-fronted shop, with house attached; stock worth £600; price £1,250, or valuation terms arranged.

9.—LONDON, S.W.—Genuine Middle-class Business; returns over £1,500; scope for increase; owner having other interests; stock and fixtures worth £650; price £750 or near offer.

10.—NORTH LONDON.—Cash Drug Store, in thickly populated district; returns about £800; fine chance for Chemist; low overheads; price £250 or first reasonable offer.

11.—WEST LONDON.—Profitable Cash Retail, with increasing Panel; takings £20 weekly; low rent; stock worth £200; owner going abroad; price £275 or valuation.

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KENT.—Drug Store for disposal, main-road position; established 10 years; sound opening for Qualified; good middle-class neighbourhood; little opposition; clean, saleable stock; Kodak Agency; good living accommodation, part let off; low overheads; lease granted; price £250, all at, or valuation considered. 56/18, Office of this Paper.

LONDON, S.W.—Drugs and Fancies, good Photo trade; main road, corner shop; no competition; cheap inclusive rent; living accommodation if required; 5½ days; profits £250-£300 per annum; certified accounts; price £475, s.a.v.; genuine reasons for disposal. P.C.B. 323/19, Office of this Paper.

RETIRING.—W. London suburb, middle-class cash business; established 10 years; Kodak and Selo Agencies; capable of great expansion in younger hands; nice flat; £600, all at; stock and fittings worth £500. 56/29, Office of this Paper.

BUSINESSES WANTED

UNQUALIFIED requires a good Drug Store, Herbalist or mixed business; would consider partnership with lady Pharmacist. Kindly give fullest particulars, which will be treated confidentially. 56/27, Office of this Paper.

SITUATIONS OPEN—continued

WANTED at once, a young active Unqualified Assistant, either sex, as Locum for 4 to 6 weeks. State age, experience, terms, references, Kershaw, 189 Stafford Road, Wallington, Surrey.

WANTED.—Qualified Locum for 3 months or more from August 8; also an Unqualified Junior for one week commencing August 14; terms and references, Lawson, 83 High Street, Hounslow. Phone HOU. 2072.

WANTED.—Young Unqualified Locum (male or female) from August 21 to September 2; must be reliable Dispenser. Apply, with full particulars age and salary, to L. A. James, 6 Grange Parade, Uxbridge Road, Hayes, Middx.

WHOLESALE

YORKSHIRE AND LANCASHIRE.—Representative required to call upon Medical and Veterinary profession; previous experience essential and with connexion. Apply by letter in confidence, giving age, fullest particulars and salary required to Yorks, 354/909, Office of this Paper.

OLD-ESTABLISHED Company requires a Salesman who holds first-class Chemists' connexion in the Midlands; payment by salary, commission, bonus and expenses; to a good man this job is worth £5 to £6 net weekly for first year, every prospect for advancement; only energetic and enthusiastic men (car owners), young and progressive, need apply, with all particulars, to 353/892, Office of this Paper.

QUALIFIED Chemist required by old-established firm as Representative; Medical and Retail Chemists' Propaganda and Sales in London; smart appearance; able to interview Doctors; commence early September; salary £5 per week and travelling expenses. 354/922, Office of this Paper.

SALES Representative required for disposal of general requirements to Veterinary Surgeons in Lancashire and Yorkshire; connexion essential. Apply 353/878, Office of this Paper.

YOUNG Man, Qualified preferred, to assist in Drug Department of Wholesale house in London. State age, experience and wages required, and when free. P.C.B. 323/18, Office of this Paper.

A FEW KEEN AMBITIOUS MEN required to be trained by well-known sales managers to occupy responsible sales posts in leading firm; there is definitely a shortage of qualified men and good positions are **GUARANTEED**. Write for prospectus and specimen list of salaried vacancies available; please state also present qualifications. The National School of Salesmanship, Ltd., Dept. S., Bridgewater House, Manchester, 1. London Office: Victoria House (front entrance), Southampton Row, W.C.1. (Tel.: CHAncery 6969 (2 lines).)

COLONIAL, INDIAN AND FOREIGN

A LEADING Firm of Manufacturers of Pharmaceutical and Biological Products have a vacancy for a Pharmacist (24-28 years of age), unmarried, to represent them as Medical Detailist in the Middle East. Applications, with full particulars and photograph, to 354/914, Office of this Paper.

SITUATIONS WANTED**RETAIL (HOME)**

2s. for 18 words or less; 1d. for every additional word, prepaid. (Box No., 1s. extra.)

A COMPETENT Unqualified male (27), requires permanency; S.E. London or Kent; Wholesale or Retail; commence July 31. "Statim," 85 Belvedere Road, Bexleyheath. Telephone 3281.

ASSISTANT, 25 years' good experience Dispensing, Counter; single, active, elderly, Unregistered. Statim, 9 Long Grove Avenue, Dalton, Huddersfield.

CHEMIST-OPTICIAN with limited capital desires post as Manager with view to succession; middle-good-class business in pleasant surroundings; preferably old-established and within 35 miles of London. 56/4, Office of this Paper.

MANAGER (45), Qualified; fully experienced; seeks permanency or Locum work; free September 4; excellent references. Bray, 33 Worley Road, St. Albans.

PHARMACIST (22½) desires permanency; good all-round experience; well recommended; tall; good appearance and address; free now. Pattinson, Bridekirk, Cockermouth.

PHONE PINNER 2699.—Mr. Jackson, 70 Barrow Point Avenue; Qualified, Locum or permanency; anywhere between Watford and City.

QUALIFIED, all-round experience Dispensing, Counter, N.H.I.; middle-aged; free shortly. Apply 56/40, Office of this Paper.

QUALIFIED Manager or Locum, reliable references; competent, all round; 8 years multiple; disengaged. Pharmacist, 220 Holloway Road, N.7.

QUALIFIED Pharmacist (age 35), at present Superintendent high-class West End Pharmacy, will be available for engagement shortly in London; undeniable references. 55/1, Office of this Paper.

QUALIFIED (30), married, desires responsible and progressive position; Square trained; experienced Branch Manager; accustomed to high-class Dispensing business and brisk Counter trade. 56/34, Office of this Paper.

WANTED by Qualified Pharmacist (age 40), a progressive post; energetic, capable in all branches; excellent references; free one month. E. R. Shuffiebotham, 64 Melody Road, Wandsworth, S.W.18.

LOCUMS SEEKING ENGAGEMENTS

COMPETENT, middle-aged locum, disengaged, accustomed control; long record; well recommended; London or Home Counties; moderate salary; Unqualified. 56/28, Office of this Paper.

DISPENSER, male, just taken Apothecaries' Hall examination; some experience; free till August 19. Corlett, Halani Vicarage, Newark, Notts.

EXPERIENCED Qualified Locum; recommended; free August 7 to 12 and from September 11. Harris, 108 Bickley Street, S.W.17.

LADY Dispenser (Hall), requires position, temporary or permanent; good testimonials. Stead, 4 Cornhill, Bury St. Edmunds.

LOCUM, lady, Unqualified; Dispensing and Counter; free September 2 onwards; excellent references. "Chemist," 7 Dunbar Road, Forest Gate, E.7.

LOCUM, Qualified, middle-aged, energetic and trustworthy; excellent experience; disengaged July 29 to August 12. State salary; London or near. 56/13, Office of this Paper.

LOCUM work required by experienced and well-recommended Unqualified gentleman from September 18. Barnes, 26 Geraldine Road, Wandsworth, S.W.18.

PHARMACIST (24), seeks temporary position as Assistant or Locum; of pleasing address and personality. Hopkinson, 7 Hamilton Road, Ealing.

WHOLESALE

A Unqualified Chemist (33) seeks position representing reputable firm, Essex, surrounding counties; clean driving licence; hard worker; well educated; studied intensive course outdoor Salesmanship; opportunity to prove ability. 56/20, Office of this Paper.

LABORATORY Assistant (25) desires change; 9 years' experience Pharmaceutical Laboratory Stills, Vacuum Stills, Evaporating Plant, Ointments, Emulsions, Syrups, Plaster. 56/6, Office of this Paper.

PHARMACEUTICAL Chemist (27), with sound experience in Wholesale houses, desires pleasure of an interview with manager of reputable firm. 57/1, Office of this Paper.

REPRESENTATIVE, M.P.S., at present calling on Doctors, Chemists, Wholesalers, Hospitals, and desiring change, wishes similar position with firm of repute; Yorkshire and neighbouring counties preferred; car driver; trained Salesman. 56/2, Office of this Paper.

SITUATIONS OPEN—continued

SURREY.—Young Unqualified Assistant (male or female) wanted about August 8; good-class Retail and Dispensing experience necessary. Ashworth, Chemist, Church Street, Weybridge.

S.W. LONDON.—Qualified man wanted for good-class private business; middle age; comfortable berth. State salary required, which must be moderate; must be able to furnish good references. 354/917, Office of this Paper.

WEST END.—Qualified Assistant (about 30) required immediately; Counter experience essential. Write or 'phone, W. George's, Ltd., 21 Irving Street, W.C.2. Whitehall 3774.

ASSISTANT. Unqualified, capable Dispenser, of pleasing manner; good Display man, and unimpeachable character. Those having these attributes, please give full particulars (no stamped addressed envelopes), Blanch, Chemist and Optician, Coleford, Glos. Replies not answered in seven days respectfully declined.

CAPABLE Unqualified Assistant (under 21 preferred); opportunity Improver wishing gain experience Dispensing, and general middle-class business; lady might suit if competent. Age, wages, references, photo if possible. Apply by letter only, Mr. Enn, "Inisholme," New Bath Road, Sonning, Berks.

DRUG DEPARTMENT.—Saleswoman wanted; previous experience essential; knowledge of Photography an advantage. Write, stating age, experience and salary required, to Staff Supervisor, Welwyn Stores (1929), Ltd., Welwyn Garden City, Herts.

ELDERLY Pharmacist required September for branch in pleasant Midland village; cottage attached; obliging manner; comfortable berth; light retail; short hours; no extra duties; permanency to suitable applicant. Apply with usual particulars, 51/13, Office of this Paper.

EVENINGS only, Monday, Tuesday and Friday, 6 to 8 p.m.; Saturday 6.30 to 9 p.m.; Dispensing, Stock Mixtures, Counter, etc.; Qualified preferred. Give references and salary. Hanham, M.P.S., 29 Grove Vale, East Dulwich, S.E.22. Phone 3516

J. WEARING, Pharmacist, Woking, requires in a few weeks Qualified and Unqualified Assistants. State age, experience and salary required and copy of recent testimonials. State if any experience in Window-dressing; every encouragement given to gentlemen who are keen.

LADY Assistant, Unqualified, required; good Window-dresser; hours 10 to 8 p.m.; Saturdays 9 p.m.; Thursdays 1 p.m.; no Sunday duty. State age, experience, salary required and when disengaged. Wilson & Co., 20 Chapel Market, Islington, N.1.

LADY Dispenser for London suburb, with knowledge of Counter work, required; preferably not over 30 years; permanency. Give full particulars of past experience to 354/920, Office of this Paper.

LADY, Qualified, required to manage small, good-class business, 20 miles from London. Full particulars in first letter, age, height, experience and salary requested, and, if possible, photograph, which will be returned. 354/912, Office of this Paper.

MANAGING Partner (single), Optical Diploma an advantage; business in Home County; £250 for half share; interview in London. 54/46, Office of this Paper.

PHARMACY.—Qualified Assistant required; good opportunity for promotion to Manager to suitable applicant. Apply in writing, stating age and experience, to the Staff Manager, Royal Arsenal Co-operative Society, Limited, 113 Powis Street, Woolwich, S.E.18. Endorse envelope "Pharmacy." NOTE.—Canvassing of members of the General Committee or officials will disqualify.

QUALIFIED Man, young, as Assistant for mixed class, main road business, London, S.E.1; must be good Salesman and Dispenser; able to take occasional charge, and have some photographic experience; permanency. 56/14, Office of this Paper.

QUALIFIED Young (male) Assistant required at once; good-class Dispensing, Counter and Window-dressing essential. Apply with full particulars (personally preferred) to Williams (Cash Chemists), Ltd., 314/16, Elgin Avenue, Maida Vale, W.9. Telephone: Maida Vale 7464.

SMART Unqualified Assistants, both sexes, required by Ascotts Pharmacies (1933), Ltd. Permanencies and good prospects. Write or 'phone for appointment (Wembley 2113).

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UNQUALIFIED Assistant required for good-class business, Dispensing and General Counter trade (about middle of August), S.W. London; one who has passed Part I. State age, salary required, to P.C.B. 323/12, Office of this Paper.

UNQUALIFIED Assistant (21 to 25 years of age) required at once, with general Retail experience of Counter work, Dispensing and Window-dressing. Full details as to age, experience and salary required to D. S. Morse, The Pharmacy, Malmesbury, Wilts.

UNQUALIFIED Junior (male) required; Country town; to start by August 14. Apply, stating age, references and salary required, to Trimming, Willis & Co. Ltd., Alton, Hants.

UNQUALIFIED Lady Assistant, with smart appearance wanted for S.E. London; age 21-25 years; capable Dispenser and used to good-class Toilet trade; salary £2 15s. Apply, with references and photo (returnable), to 56/42, Office of this Paper.

UNQUALIFIED Male or Female as Junior, for light Retail, Photo and Dispensing business. Please state age, height, experience (photography essential), salary, when disengaged and, if possible, photo; usual half-day and no Sunday duty. Barrett & Swainson, 21 Albert Road, Devonport.

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WANTED immediately, Qualified Chemist to act as Superintendent for N.H.I. and private Dispensing; position is permanent and progressive. Apply Langer, Ltd., 321 Bethnal Green Road, London, E.2.

WANTED.—Unqualified Assistant for S.E. London, and single; must be quick and reliable Dispenser; good at Counter and Photography and Window-dressing; good references essential. 354/916, Office of this Paper.

LOCUMS AND SEASONAL VACANCIES

JUNIOR Assistant, Unqualified, required for one month commencing August 7; good Counterhand, Photographic knowledge; give experience and references, also state terms. James Lothhouse & Co., Ltd., 103 Lord Street, Fleetwood.

LOCUM, Qualified, required August 14-26 inclusive, or August 21 to September 2 inclusive; duties chiefly Dispensing; no Sunday duty. Write, stating salary, etc., Walton (Chemists), Ltd., 26 Broadway Buildings, Potters Bar, Middlesex.

LOCUM.—Unqualified Locum wanted from August 21 to September 2 inclusive. State salary required, J. B. Frank & Co., 111 Brixton Hill, S.W.2. Phone: Tulse Hill 5362.

LOCUM, Unqualified (male or female) required for week August 7-13; accommodation available. Brown, 1 King's College Road, N.W.3.

LOCUM, Unqualified, male, required, August 8-19 (comfortable digs if necessary). Miles Rees, Anerley (near Crystal Palace), S.E.20. Phone SYD. 6197.

LOCUM, Unqualified, required from August 8 to 26, principally for Dispensing. Apply with full particulars age, salary, etc., to Jones & Co., 161 New Cross Road, London, S.E.14.

QUALIFIED Locum, August 21 to September 2 (or nearest dates), Assistant kept. Please state age, salary, experience and references. R. W. Oldland, Optician and Chemist, 131 Broadway, Thorpe Bay, Essex.

QUALIFIED Locum required, August 8-19, to manage good-class Family Dispensing business. Give full particulars of age, previous experience and salary required. Hodgkiss, 312 London Road, North Cheam, Surrey.

UNQUALIFIED Assistant required for six weeks from August 8; must be used to quick Counter trade and able to Dispense. Give full particulars of age, previous experience and salary required. Goldthorpes, 10 Powis Street, Woolwich, S.E.18.

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